# IEEE

# CCECE 2004 CCGÉI

# Schedule of Events

Session Code:

Day Monday, Tuesday, Wednesday.
Type Oral – Morning, Oral Afternoon, Poster – afternoon.
Session Number.
Presentation Number.

Ex. WM03.06 = Wednesday Morning Session 3 Presentation 6.

Edas paper number is shown immediatley following authors.

Volume and page in the printed proceedings is shown thus: V1-0988.

# Monday, May 3

## *Plenary Session 1*

TIME: 08:15 - 09:15
ROOM: Oakes Ballroom

***"Science and Engineering Research in the next 25 years - some general features".***

**Dr. Tom Brzustowski**,
President,
Natural Sciences and Engineering,
Research Council of Canada.

## Session (Oral) MM1: OFDM

**Monday, May 03, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. D. Hatzinakos and Mr. R. Pacheco, University of Toronto** **Room: Canadiana**

**1. BER Analysis of Self-Heterodyne OFDM Transmission Scheme**
Ryan Pacheco (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 6621 V4-1953

**2. Search for OFDM Synchronization Waveforms with Good Aperiodic Autocorrelations**
Oktay Ureten (Communications Research Centre, Canada), Selcuk Tascioglu (Ankara University, Turkey), Nur Serinken (Communications Research Centre, Canada) Mumtaz Yilmaz (Ankara University, Turkey) 3772 V1-0013

**3. Performance of a Modulation Scheme Estimation Method for Adaptive Modulation based COFDM-CDMA Systems**
Sujoy Chatterjee,(Asian Institute of Technology, Thailand), Kazi M. Ahmed (Asian Institute of Technology, Thailand), W.A.C. Fernando (Asian Institute of Technology, Thailand) 5093 V1-0153

**4. A Real-time Software Implementation of an OFDM Modem Suitable for Software Defined Radios**
Antonio L. Cinquino (Concordia University, Canada), Yousef R. Shayan (Concordia University, Canada) 5804 V2-0697

### Break : 10:50 – 11:00

**5. Decision Directed OFDM-CPM systems for Wireless Communications**
Yasir Barlas (University of Western Ontario, Canada), R. K. Rao (University of Western Ontario, Canada) 5887 V2-0909

**6. Peak-to-Average Power Ratio Reduction in OFDM: Optimal and Suboptimal Combination of Erasure Pattern Selection and Probabilistic Methods**
Lucia Valbonesi (University of Illinois at Chicago, USA) and Rashid Ansari (University of Illinois at Chicago, USA) 6886 V4-2175

**7. Channel Estimation Methods For MIMO-OFDM System: Time Domain Versus Frequency Domain**
Quazi Mehbubar Rahman (Royal Military College of Canada and Queen's University) and Mostafa Hefnawi (Royal Military College of Canada) 5801 V2-0689

**8. Two Novel Transform Domain Estimation Methods for OFDM System and Their Application Environment**
Jia Lei (University of Tianjin, China), Cao Dazhong ( Tianjin University, China) Hou Chunping ( Tianjin University, China) 5443 V1-0377

## Session (Oral) MM2: Mobile Networks I

**Monday, May 03, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. S. Pierre, Ecole Polytechnique de Montreal** **Room: Ontario**

**1. Wireless Camera Network for Image Super-resolution**
Marc Directo (McMaster University, Canada), Shahram Shirani (McMaster University, Canada), David Capson (McMaster University, Canada) 5798 V2-0681

**2. Location-Based Services: Advances and Challenges**
Isaac K. Adusei (University of Hannover, Germany), Kyandoghere Kyamakya (University of Hanover, Germany), Fazli Erbas (University of Hanover, Germany) 3268 V1-0001

**3. Performance Considerations for Managing Users' Mobility in Mobile Systems**
Alejandro Quintero (Ecole Polytechnique de Montreal, Canada), Oscar Garcia (Ecole Polytechnique de Montreal, Canada), Samuel Pierre (Ecole Polytechnique de Montreal, Canada) 6462 V3-1793

**4. Mobility Prediction based Service Location and Delivery**
N. Samaan (University of Ottawa, Canada), Ahmed Karmouch (University of Ottawa, Canada) and H. Kheddouci (Université de Bourgogne, France) 6975 V4-2307

### Break : 10:50 – 11:00

**5. Automatic Mobile Payment on a non-Connected Vending Machine**
Seyed Bahram Zahir Azami (Hivva Technologies, Canada) and Mohammad Tanabian (Hivva Technologies, Canada) 5818 V2-0731

**6. UHF DTV Band Channel Characterization for Mobile Reception**
Assia Semmar (Laval University, Canada), Jean-Yves Chouinard (Laval University, Canada), Xianbin Wang (Communications Research Centre, Canada) and Yiyan Wu (Communications Research Centre, Canada) 6066 V3-1339

**7. On the Role of Base Station In Fault-Tolerant Mobile Networks**
Rana Ejaz Ahmed (American University of Sharjah, U.A.E), Abdul Khaliq (American University of Sharjah, U.A.E) 5604 V1-0473

**8. Designing and Implementing of a Wireless Network Emulator**
Zhigang Jin (Tianjin University, China), Xiuli Wu (Tianjin University, China) Yantai Shu and Zhifeng Fu (Tianjin University, China) 5335 V1-0341

## Session (Oral) MM3: Optical Networks

**Monday, May 03, 2004** **TIME: 9:30 – 12:20 p.m**

**CHAIR:** **Dr. X. N. Fernando, Ryerson University** **Room: Auditorium**

**1. Optimization of All-Optical Network Testbed Regarding NRZ and RZ Modulation**
Hongqing Zeng (Carleton University/Communications Research Centre, Canada), Alex Vukovic (Communications Research Centre, Canada), J. Michel Savoie (Communications Research Centre, Canada) and Changcheng Huang (Carleton University, Canada) 5524 V1-0429

**2. Performance of A Packet Switch with an Optical Core under Self-similar Traffic**
Sareh Taebi (University of Ottawa, Canada), Sofia A. Paredes (University of Ottawa, Canada) and Trevor Hall (University of Ottawa, Canada) 5825 V2-0747

**3. A Novel Approach to Joint Wavelength and Waveband Routing in Hierarchical Optical Networks**
Saurav Gorai (Indian Institute of Technology, India), Arabind Dash (Indian Institute of Technology, India), Ranjan Gangopadhyay (Indian Institute of Technology, India),Piero Castoldi (Scuola Superiore Sant'Anna, Italy) 5972 V2-1101

**4. A Dynamic Multi -Wavelength Simulink Model for EDFA**
Stephen Pinter (Ryerson University, Canada), Jean Jiang (Ryerson University, Canada) and Xavier Fernando (Ryerson University, Canada) 6808 V4-2077

### Break : 10:50 – 11:00

**5. Quantifying the Effect of Extended Offsets in Optical Burst Switching Networks**
Neil Barakat (University of Toronto, Canada) and Edward H. Sargent (University of Toronto, Canada) 6998 V4-2331

**6. A Study on a Residential Gateway for an Ethernet Based Residential Multiservices Network**
Larry Lindsay (University of Guelph, Canada) and Shaowen Song (Wilfrid Laurier University, Canada) 5727 V2-0617

**7. Multicast Traffic Grooming in WDM Networks**
Ahmad Khalil (CUNY, USA), Chadi Assi (Concordia University, Canada), Antonis Hadjiantonis (CUNY, New York, USA), Georgios Ellinas (CUNY, USA), Nasser Abdellatif and M. A. Ali (CUNY, USA) 5836 V2-0785

**8. 2-D CMOS Based Image Sensor System for Fluorescent Detection**
Yasaman Ardeshirpour (McMaster University, Canada), M. Jamal Deen (McMaster University, Canada) and Shahram Shirani (McMaster University, Canada) 6109 V3-1441

## Session (Oral) MM4: VLSI Design

**Monday, May 03, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. M. Ahmadi, University of Windsor** **Room: Cree**

**1. Design of a Low-Power D Flip-Flop for Test-Per-Scan Circuits**
Nitin Parimi (University of Alberta, Canada), Xiaoling Sun (University of Alberta, Canada) 5833 V2-0777

**2. An Overview of Reconfigurable VLSI Based Signal Processing Building Blocks for Next Generation Wireless Devices**
Peter Noel (Carleton University, Canada), Ramin Shariat-Yazdi (Carleton University, Canada), Tad Kwasniewski (Carleton University, Canada) 6012 V2-1207

**3. Nanotechnology Based Energy Generation from Thermal Radiation**
Quentin Diduck (University of Rochester, USA), Martin Margala (University of Rochester, USA) 6168 V3-1597

**4. Deep-Submicron CMOS Design of High-Performance Low-Power Flash/Folding Analog-To-Digital Converters**
John Liobe (University of Rochester, USA), Martin Margala (University of Rochester, USA) 6187 V3-1629

**Break : 10:50 – 11:00**

**5. New Design of a MAP/BCJR Decoder**
Leila Sabeti (University of Windsor, Canada), Majid Ahmadi (University of Windsor, Canada), Kemal Tepe (University of Windsor, Canada) 6415 V3-1773

**6. Review of Charge -Sharing Logic Circuits**
Muhammad Arsalan (Carleton University, Canada), Maitham Shams (Carleton University, Canada) 6596 V4-1919

**7. Performance Evaluation of Three Memory Sense Amplifiers with Input Offset Cancellation**
Haiying Helen Qu (University of Alberta, Canada), Bruce F. Cockburn (University of Alberta, Canada) 6598 V4-1927

**8. Implementing a Digitally Synthesized Adaptive Pre-emphasis Algorithm for use in a High-Speed Backplane Interconnection**
Lei Lin (Carleton University, Canada), Peter Noel (Carleton University, Canada) Tad Kwasniewski (Carleton University, Canada) 6017 V3-1221

## Session (Oral) MM5: Image and Video Processing

**Monday, May 03, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. R. Lukac, University of Toronto** **Room: Hennipen North**

**1. A New Digital Camera Zooming Solution**
Rastislav Lukac (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) 5860 V2-0845

**2. Density Estimation Embedded B-Spline Smoother for Signal Denoising and Edge-Preserving**
Ruixiang Song (University of Manitoba, Canada) 5285 V1-0299

**3. Local Correlation Based CFA Interpolation**
Marko Aleksic (University of Toronto, Canada), Rastislav Lukac (University of Toronto, Canada) 5838 V2-0793

**4. Joint Rate Distortion Optimal Shape and Texture Coding**
Saurav Bandyopadhyay (University at Buffalo, USA), Lisimachos Kondi (University at Buffalo, USA) 5859 V2-0841

**Break : 10:50 – 11:00**

**5. Binary Shape Mask Representation for Zerotree-Based Visual Object Coding**
Karl Martin (University of Toronto, Canada),Rastislav Lukac (University of Toronto, Canada),Konstantinos N. Plataniotis (University of Toronto, Canada) 6898 V4-2197

**6. Estimation of Epipolar Geometry from Homography Using Global Optical Flow**
Reginald Rowlandson (University of Guelph, Canada), Robert D. Dony (University of Guelph, Canada) 6042 V3-1277

**7. Shape Constrained Discrete Dynamic Contours for Noisy Object Segmentation**
Azad Shademan (Ryerson University, Canada), Farrokh Janabi-Sharifi (Ryerson University, Canada), Javad Alirezaie (Ryerson University, Canada) 6132 V3-1507

**8. Modeling Change of Haplotype Distributions in Random Mating Populations Using Random Sets**
Amir Raji-Kermany (University of Ottawa, Canada), Charalambos D. Charalambous (University of Ottawa, Canada), Donal Hickey (University of Ottawa, Canada) 6842 V4-2107

## Session (Oral) MM6: Power Systems

**Monday, May 03, 2004** **TIME: 9:30 – 12:30**

**CHAIR:** **Dr. R. Billinton, University of Saskatchewan** **Room: Oneida**

**1. Optimum Market Strategy for an Independent Power Producer**
Ashikur Bhuiya (Alberta Electric System Operator, Canada), Nurul Chowdhury (University of Saskatchewan, Canada) and M. Huq (University of Saskatchewan, Canada) 6602 V4-1937

**2. Grounding of Standby and Emergency Power Systems**
Gelu F. Gîrda (IEEE Member) and Ajit Bapat (IEEE Member) 5247 V1-0261

**3. Identification non linéaire des paramètres du modèle ABC/abc du moteur à induction**
Nadia Elkhattabi (Université du Québec à Trois-Rivières, Canada), Anatole Sévigny (Université du Québec à Trois-Rivières, Canada), Pierre Sicard (Université du Québec à Trois-Rivières, Canada), André Charette (Laboratoire des technologies de l'énergie de l'IREQ - Hydro-Québec, Canada) 6729 V4-2047

**4. Power System Protection and Control Integration over Ethernet-based Communication Channels**
T.S. Sidhu (University of Western Ontario, Canada), Elemer Demeter (SaskPower, Canada), Sherif O. Faried (University of Saskatchewan, Canada) 5221 V1-0225

**Break : 10:50 – 11:00**

**5. Modeling and Analysis of Active Islanding Detection Methods for Photovoltaic Power Conditioning System**
Youngseok Jung (Korea Institute of Energy Research, Korea), Junghun So (Korea Institute of Energy Research, Korea), Gwonjong Yu (Korea Institue of Energy Research, Korea), Jaeho Choi (Chungbuk National University,Korea) 5910 V2-0979

**6. On line Measurement and Improvement of Working Parameters of a Diesel Engine - Synchronous Alternator Group**
Gelu F. Gîrda and Abdemusa Moosajee (Bombardier Transportation Inc.) 5244 V1-0257

**7. Identifying Transmission Deficiencies in Composite Electric Power Systems**
Roy Billinton and Yifeng Li (University of Saskatchewan, Canada) 9002 V4-2409

**8. Defining Power Factor for Intermittent Duty Load Conditions**
Vishal Verma (G.B. Pant University of Ag. & Tech, India), X. Umesh (G.B. Pant University of Ag. & Tech., India), Bhim Singh (Indian Institute of Technology- Delhi, India), Ambrish Chandra (ETS-Quebec, Canada) 6680 V4-1997

## Session (Oral) MM7: Security Applications

**Monday, May 03, 2004** **TIME: 9:30 – 12:30**

**CHAIR:** **Dr. K. Plataniotis, University of Toronto** **Room: Haida**

**1. Protecting Hosts Against Attacks in IMAGO System**
X. Zhujun (University of Guelph, Canada) Xu Li and Xining Li (University of Guelph, Canada) 5379 V1-0361

**2. Cryptographic Key Management Solution in a Role Hierarchy**
Cungang Yang (Ryerson University, Canada), Celia Li (Ryerson University, Canada), Richard Cheung (Ryerson University, Canada) 5689 V1-0575

**3. Implementation of a Caching Mechanism in a Pervasive Environment**
Visvasuresh Victor Govindaswamy (University of Texas at Arlington, USA), G. Balasekaran (Nanyang Technological University, Singapore) , Naveen Ramamurthy (University of Texas at Arlington, USA), Meraj Khan (University of Texas at Arlington, USA), Savitha Ramesh (University of Texas at Arlington, USA) 5138 V1-0169

**4. A stream Cipher Algorithm Based on Conventional Encryption Techniques**
Ya-Ping Zhang (Tianjin University, China), Jizhou Sun (Tianjin University, China) and Xu Zhang (Tianjin University, China) 5748 V2-0649

**Break : 10:50 – 11:00**

**5. Security Audit: A Case Study**
Edward C. Lo (University College of the Fraser Valley, Canada) and Mike Marchand (University College of the Fraser Valley, Canada) 5177 V1-0193

**6. A Differential Attack on the CIKS-1 Block Cipher**
Brian J. Kidney (Memorial University of Newfoundland, Canada), Howard H. Heys (Memorial University of Newfoundland, Canada), Theodore S. Norvell (Memorial University of Newfoundland, Canada) 5978 V2-1119

**7. Improving Intrusion Detection Systems Through Heuristic Evaluation**
Andrew T. Zhou (Dalhousie University, Canada), James Blustein (Dalhousie University, Canada) and Nur Zincir-Heywood (Dalhousie University, Canada) 6214 V3-1641

**8. Honeypot and Scan Detection in Intrusion Detection System**
Chunmei Yin (Tianjin University, China), Mingchu Li (Tianjin University, China), Jianbo Ma (Tianjin University, China) and Jizhou Sun (Tianjin University, China) 5974 V2-1107

## Session (Oral) MM8: Signal Processing Algorithms and Architectures I

**Monday, May 03, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. A. E. Saddik, University of Ottawa** **Room: Hennipen South**

**1. Détermination du niveau de clinker par le traitement de signaux radars**
Louis-Philippe Gill (Université Laval, Canada), Dominic Grenier and Patrick Luneau (Université Laval, Canada) 4229 V1-0039

**2. A Stroke Based Algorithm For Dynamic Signature Recognition**
Tong Qu (University of Ottawa Canada), Abdulmotaleb El-Saddik (University of Ottawa, Canada) and Andy Adler (University of Ottawa, Canada) 5591 V1-0461

**3. Dense Disparity Estimation Based on the Continuous Wavelet Transform**
Xiaodong Huang (University of Ottawa, Canada) and Eric Dubois (University of Ottawa, Canada) 5592 V1-0465

**4. Simulation of Oscillometric Waveforms**
Sukru Colak and Can Isik (Syracuse University, USA) 5651 V1-0497

**Break : 10:50 – 11:00**

**5. On the Correlation of the DWT Coefficients**
Jeong-Jin Lee (University of Waterloo, Canada) and George Freeman (University of Waterloo, Canada) 5963 V2-1073

**6. Sub-dictionary Selection using Local Discriminant Bases Algorithm for Signal Classification**
Karthikeyan Umapathy (University of Western Ontario, Canada), Sridhar Krishnan (Ryerson University, Canada), Anindya Das (University of Western Ontario, Canada) 6684 V4-2001

**7. An Improved Radix-16 FFT Algorithm**
Saad Bouguezel (Concordia University, Canada), M. Omair Ahmad (Concordia University, Canada) and M. N. S. Swamy (Concordia University, Canada) 5969 V2-1089

**8. A Simulated Annealing Algorithm to support the Sensor Placement for Target Location**
Pei-Ling Chiu (National Taiwan University, Taiwan) Frank Yeong-Sung Lin (National Taiwan University, Taiwan) 5865 V2-0867

## Session (Oral) MM9: Image Processing I

**Monday, May 03, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. S. Shirani, McMaster University** **Room: Chippawa**

**1. ISAR Imaging with Array Antenna Receiver using AUTOCLEAN Algorithm**
Hugues Dombrowski (Laval University, Canada), Dominic Grenier and Sebastien Roy (Laval University, Canada) 5224 V1-0233

**2. Unequal Error Protected ROI Image Transmission Based on Vector Quantization**
Abbas Ebrahimi-Moghadam (McMaster University, Canada) and Shahram Shirani (McMaster University, Canada) 5698 V1-0591

**3. Combining Regularization Frameworks for Image Deblurring: Optimization of Combined Hyper-Parameters**
Richard Youmaran (University of Ottawa, Canada) and Andy Adler (University of Ottawa, Canada) 5816 V2-0723

**4. On the Isolation of Spectacles and the Extraction of Faces for Personal Identification.**
Yoshihiro Kato (Kogakuin University, Japan) and Osamu Nakamura (Kogakuin University, Japan) 5922 V2-0999

**Break : 10:50 – 11:00**

**5. Evaluation of Three Dimensionality Reduction Techniques for Document Classification**
Xiao Luo and A. Nur Zincir-Heywood (Dalhousie University, Canada) 5164 V1-0181

**6. Image Compression with Optimal Wavelet**
Guangyi Y. Chen (Concordia University, Canada), T. D. Bui (Concordia University, Canada) and A. Krzyzak (Concordia University, Canada) 5194 V1-0209

**7. Subsamping-Based Image Compression Prediction for Memory-Limited Applications**
Milivoje Aleksic (ATI Technologies, Canada) and Ioannis Kouramanis (ATI Technologies, Canada) 5685 V1-0571

**8. Extraction Algorithm of Principal Lines and Rotation Method for Non-contacting Fingerprint Authentication**
Keita Torii (Kanto Gakuin University, Japan) and Noriyoshi Okamoto (Kanto Gakuin University, Japan) 5890 V2-0923

## Session (Oral) MM10: Software Engineering I

**Monday, May 03, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. Y. Wang, University of Calgary** **Room: Tuscarora**

**1. An Extension of SEMEST: The Online Software Engineering Measurement Tool**
Shuangshuang Zhang and Yingxu Wang (University of Calgary, Canada) 6135 V3-1519

**2. Incorporating AContract-Based Test Facility to the GUI Framework**
Ting Liu and Paul Dasiewicz (University of Waterloo, Canada) 5504 V1-0405

**3. Automating the Transition from Stakeholders' Requests to Use Cases in OOAD**
Kalaivani Subramaniam (University of Calgary, Canada), Behrouz Homayoun Far and Armin Eberlein (University of Calgary, Canada) 5659 V1-0515

**4. Case Studies on the Application of the CORE Model for Requirements Engineering Process Assessment**
Li Jiang (University of Calgary, Canada), Armin Eberlein (American University of Sharjah, UAE) and Behrouz Homayoun Far (University of Calgary, Canada) 5312 V1-0323

**Break : 10:50 – 11:00**

**5. Exploring Java Code Generation based on Formal Specifications in RTPA**
Cyprian F. Ngolah and Yingxu Wang (University of Calgary, Canada) 6139 V3-1533

**6. Decision Trees of Cryptographic Boolean Functions**
Amr M. Youssef (Queen's University, Canada) and Stafford E. Tavares (Queen's University Canada) 5492 V1-0401

**7. Test Selections and Coverages**
Goga Nicolae (Technical University Eindhoven, The Netherlands) and Florica Moldoveanu (Politehnica University, Romania) 5808 V2-0707

**8. Maintenance Issues in Outsourced Software Components**
Rana Ejaz Ahmed (American University of Sharjah, United Arab Emirates) 5024 V1-0129

# Monday, May 3

# *Luncheon Speaker*

TIME: 12:30 - 14:15
ROOM: Oakes Ballroom

## ***"Packet Voice Technology"***

## Jeff Seifert

### Cisco Systems Distinguished Engineer

## Sponsored by Cisco Systems

## Session (Oral) MA1: MIMO Systems

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. S. Loyka, University of Ottawa** **Room: Canadiana**

**1. Effect of Oversimplifying the Simulated Indoor Propagation on the Deterministic MIMO Capacity**
Michel Elnaggar (University of Waterloo, Canada), Safieddin Safavi-Naeini and Sujeet K. Chaudhuri (University of Waterloo, Canada) 5215 V1-0221

**2. Performance Study of MIMO Systems in a Clustered Multipath Channel**
Guangze Zhao (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5588 V1-0453

**3. Performance Analysis of Multiuser Diversity in MIMO Channels**
Ahmed Iyanda Sulyman (Queen's University, Canada) and Mohamed Ibnkahla (Queen's University, Canada) 6010 V2-1199

**4. Analysis of MIMO Capacity in Waveguide Environments Using Practical Antenna Structures for Selective Mode Excitation**
Gwenael Poitau (Ecole de Technologie Superieure, Canada) and Ammar Kouki (Ecole de Technologie Supérieure, Canada) 5340 V1-0349

**5. Impact of Multipath Angular Distribution on Performance of MIMO Systems**
Leo Chan (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5862 V2-0853

**Break : 15:50 – 16:10**

**6. Statistical Analysis of a Measured MIMO Channel**
Giyora Levin (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5867 V2-0875

**7. Investigation of MIMO Channel Correlation and Capacity Based on Partial Embedded RF Measurements**
Ali Jemmali (École de technologie supérieur, Canada) and Ammar Kouki (Ecole de technologie supérieure, Canada) 5663 V1-0531

**8. Performance Evaluation of MIMO-CFDM Systems in Correlated Fading Channels**
Jaeho Chung and Jaehwa Kim (Samsung Electronics Co, Ltd.), Taekon Kim and Jaemoon Jo (Samsung Electronics Co, Ltd.) 5589 V1-0457

**9. An Improved Water-filling Algorithm for Mobile MIMO Communication Systems over Time-Varying Fading Channels**
Ligang Ren (Beijing University of Posts and Telecommunications, China), Zhijie Yan (Beijing University of Posts and Telecommunications, China), Mei Song (Beijing University of Posts and Telecommunications, China) and Junde Song (Beijing University of Posts and Telecommunications, China) 5735 V2-0629

**10. Improved MIMO-DFE Detection Algorithm For V-BLAST Over Frequency-Selective Channels**
Gan Zheng (Tianjin University, P.R. China), Dazhong Cao and Chunping Hou (Tianjin University, P.R. China) 5610 V1-0477

## Session (Oral) MA2: Fading Channels and Equalizers

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. S. Gazor, Queen's University** **Room: Chippawa**

**1. Analysis of Partially Coherent PSK Systems in Wireless Channels with Equal-Gain Combining**
Mahmoud A . Smadi (University of Texas at Arlington, USA) and Vasant K. Prabhu (University of Texas at Arlington, USA) 4839 V1-0099

**2. Power Savings in Channel Equalizers using Run-Time Reconfiguration**
Alireza Shoa (McMaster University, Canada), Shahram Shirani (McMaster University, Canada) 5871 V2-0879

**3. Signal Distortion Caused by Tree Foliage in a 2.5 GHz Channel**
Eric R. Pelet (University of Saskatchewan, Canada), Eric Salt (University of Saskatchewan, Canada) and Garth Wells (University of Saskatchewan, Canada) 6111 V3-1449

**4. Performance of MRC over Nakagami-m Fading Channels with Arbitrary Branch Correlation, Non-identical and Non-integral Fading Orders**
Tuan A. Tran and Abu B. Sesay (University of Calgary, Canada) 6160 V3-1581

**5. The Impact of a Two-Path Radio Environment on Bit Error Rate in UMTS Networks**
Abdul H. Ali and John G. Gardiner (University of Bradford, UK) 5188 V1-0205

### Break : 15:50 – 16:10

**6. WMPLS Throughput Efficiency in Multipath Rayleigh Fading Environments**
Najah Abu Ali (Queen's University, Canada), Hamidreza Saligheh Rad (Queens University, Canada), Saeed Gazor (Queens University, Canada) and Hussein Mouftah (University of Ottawa, Canada) 6399 V3-1749

**7. Cyclostationary-Based Diversity Combining for Blind Channel Equalization using Multiple Receive Antennas**
Mohan Baro (Dalhousie University, Canada) and Jacek Ilow (Dalhousie University, Canada) 7349 V4-2375

**8. Capacity of Gaussian Channels with Noise Uncertainty**
Stojan Z. Denic and Charalambos D. Charalambous (University of Ottawa, Canada), Seddik M. Djouadi (University Tennessee, USA) 5516 V1-0421

**9. Reconfigurable Defected Ground Microstrip Phase Shifter Using Micromachined Membranes**
Tina Shoa (University of Manitoba, Canada) and Cyrus Shafai (The University of Manitoba, Canada) 6021 V3-1233

**10. Blind Hammerstein Detection Feedback Equalizer (BHDFE) as a New Blind Equalizer**
Yasin Miar and AmirReza Momen (Iran Telecommunication Research Center, Iran), Hamidreza AminDavar and Hossein Samimi (Iran Telecommunication Research Center, Iran) 5681 V1-0567

## Session (Oral) MA3: Quality of Service

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. A. Safwat, Queen's University** **Room: Ontario**

**1. Composite Metric For Quality of Service Routing in OLSR**
Nauman Aslam (Dalhousie University, Canada), William Phillips (Dalhousie University, Canada) and William Robertson (Dalhousie University, Canada) 5829 V2-0759

**2. On the Implementation of Weighted Fair Queuing in High Speed Networks**
Jordan Lu, Rob Robotham (Alcatel Canada Inc., Canada) 5847 V2-0809

**3. A QoS Scheme to address Communication Latency Issues for Critical Network Flows in Best-Effort Networks using Mobile Agents**
Visvasuresh Victor Govindaswamy (University of Texas at Arlington, USA), Gergely Zaruba (University of Texas at Arlington, USA), G. Balasekaran (Nanyang Technological University, Singapore) 5879 V2-0891

**4. Implementing an IPv6 QoS management scheme using Flow Label & Class of Service Fields**
El-Bahlul Fgee (Dalhousie University, Canada), Jason D. Kenney (Dalhousie University, Canada), William J. Phillips (Dalhousie University, Canada), William Robertson (Dalhousie University, Canada) and Shyamala Sivakumar (Saint Mary's University, Canada) 5951 V2-1049

**5. Distributed QoS-Constrained Multicast Algorithms**
Ayse Karaman (Queen's University, Canada) and Hossam Hassanein (Queens University, Canada) 6124 V3-1491

**Break : 15:50 – 16:10**

**6. Extending the Concept of Effective Bandwidths to Diffserv Networks**
Houjin Li (Carleton University, Canada), Changcheng Huang (Carleton University, Canada), Michael Devetsikiotis (North Carolina State University, USA) and Gerard Damm (Alcatel, Canada) 6262 V3-1669

**7. Towards a Unified Optimal Spectral Amplitude Estimator for Speech Enhancement in Various Low-SNR Environments**
Hesham Tolba (INRS-EMT, University de Quebec, Canada), Zili Li and Douglas O'Shaughnessy (INRS-EMT, University de Quebec, Canada) 3710 V1-0009

**8. DiffServ QoS Performance Evaluation of Multimedia Telephony**
Racha Ben Ali (Ecole Polytechnique de Montreal, Canada), Samuel Pierre (Ecole Polytechnique de Montreal, Canada) and Yves Lemieux (Ericsson Research Canada) 6849 V4-2115

**9. Qos Multicast Routing Based On a Heuristic Genetic Algorithm**
Mehdi Karabi (Iran University of Science & Technology, Iran), Mahmood Fathy (Iran University of Science & Technology, Iran) and Mehdi Dehghan (Amirkabir University of Technology, Iran) 6355 V3-1727

**10. End-to-end QOS implement by Diffserv and MPLS**
Hongyun Man (Tianjin University, China), Linying Xu (Tianjin University, China), Zijian Li (Tianjin University, China) and Lianfang Zhang (Tianjin University, China) 5743 V2-0641

## Session (Oral) MA4: High Speed Circuits

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. C. Saavedra, Queen's University** **Room: Haida**

**1. Low Voltage SAW Oscillator**
Tarek Sadek (McMaster University, Canada) and Peter M . Smith (McMaster University,Canada) 4954 V1-0117

**2. A Fully Differential High-Speed Double-Edge Triggered Flip-Flop (DETFF)**
Padram Sameni and Shahriar Mirabbasi (University of British Columbia, Canada) 6113 V3-1459

**3. An Overview of High-Speed Serial I/O Trends, Techniques and Standards**
Farhad Zarkeshvari (Carleton University, Canada), Peter Noel (Carleton University, Canada), Sergei Uhanov (Carleton University, Canada) and Tad Kwasniewski (Carleton University, Canada) 6016 V2-1215

**4. A 100MHz- 1GHz On-Chip-Programmable Phase-Locked Loop**
Haleh Vahedi (University of Ryerson, Canada), Ayal Shoval (IEEE Member) and Kaamran Raahemifar (Ryerson University, Canada) 6169 V3-1601

**5. A Study and Comparison of Full Adder Cells Based on the Standard Static CMOS Logic**
Amir Ali Khatibzadeh (Ryerson University, Canada) and Kaamran Raahemifar (Ryerson University, Canada) 6858 V4-2139

**Break : 15:50 – 16:10**

**6. A New CMOS Current-Mode Multiplexer for 10GB/S Serial Links**
Jean Jiang (Ryerson University, Canada) and Fei Yuan (Ryerson University, Canada) 6261 V3-1665

**7. A 10-Gb/s Cmos Sample-and-Hold Phase Detector Using Dual Substrate Technique**
Zoe Wai Ying Hui (Carleton University, Canada) and Tad A. Kwasniewski (Carleton University, Canada) 6410 V3-1761

**8. A Voltage-Variable Time Delay Element for Clock Waveforms**
Yang Zhang and Carlos Saavedra (Queen's University, Canada) 5669 V1-0551

**9. A Linear Phase Distributed Amplifier for Wide Band Optical Transceiver using Transversal Filter Concept**
Mahmoud Mohammad-Taheri (University of Tehran, Iran) and Mohammed I. Elmasry ( University of Waterloo, Canada) 5196 V1-0213

**10. Full-integrated OTA Highpass Filter Design Based on Jacobi-Method and Similar Diagonal Matrix**
Wang Shuyan (Tianjin University,China), Teng Jianfu (Tianjin University,China) and Hou Chunping (Tianjin University, China) 5236 V1-0249

## Session (Oral) MA5: Circuits and Applications

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. F. Yuan, Ryerson University** **Room: Cree**

**1. Amplitude-Phase-Locked-Loop design using MWL Criterion**
Reza Rashidi Far (Queen's University, Canada) and Saeed Gazor (Queen's University, Canada) 6411 V3-1765

**2. An Overview of Low-Voltage VCO Delay Cells and a Worst case Analysis of Supply Noise Sensitivity**
Mohamad El-Hage (Ryerson University, Canada) and Fei Yuan (Ryerson University, Canada) 6458 V3-1785

**3. On the Design of Low Power MCML based Ring Oscillators**
Ayman H. Ismail (University of Waterloo, Canada), M. Sharifkhani (University of Waterloo, Canada) and Mohamed I. Elmasry (University of Waterloo, Canada) 7481 V4-2383

**4. A 0.18µm CMOS Channel Select Filter using Q-enhancement Technique**
Jiandong Ge and Anh Dinh (University of Saskatchewan, Canada) 6859 V4-2143

**5. High -Speed Signal Compensation on Printed Circuit Boards**
Bernard E. Boos (University of Saskatchewan, Canada), David E. Dodds (University of Saskatchewan, Canada) and Ron J. Bolton (University of Saskatchewan, Canada) 6890 V4-2185

### Break : 15:50 – 16:10

**6. CMOS Imager Design for Fast Centroid Readout**
Christopher Thomas (York University, Canada), Richard Hornsey (York University, Canada), Kevin Yip (York University, Canada), Mayes Mullins (Mayes Mullins Enterprises Ltd. Canada) and Paul J. Thomas (Topaz Technology Inc., Canada) 6980 V4-2315

**7. Automatic Fingerprint Recognition Algorithm**
Jason Zalev (Ryerson University, Canada) and Reza Sedaghat (Ryerson University, Canada) 6958 V4-2263

**8. Power Sensitivity of Low-Voltage CMOS Current-Mode Circuits**
Fei Yuan (Ryerson University, Canada) 6375 V3-1741

**9. High Precision Target Tracking with a Compound -Eye Image Sensor**
Rubakumar Krishnasamy (York University, Canada), Winnie Wong (York University, Canada), Edward Shen (York University, Canada), Srdjan Pepic (York University, Canada), Richard Hornsey (York University, Canada) and Paul J. Thomas (Topaz Technology Inc., Canada) 6981 V4-2319

**10. An Integrated Low-Voltage SLIC/Codec for Short Loop Applications**
M. Sharifkhani (University of Waterloo, Canada), Behzad Sheikholeslami (University of Tehran, Iran) and Omid Shoaei (University of Tehran, Iran) 7480 V4-2379

## Session (Oral) MA6: Signal Processing Algorithms and Architectures II

**Monday, May 03** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. W. Kinsner, University of Manitoba** **Room: Hennipen South**

**1. Modeling Multifractal Object Boundaries using Iterated Function System**
Sharjeel Siddiqui (University of Manitoba, Canada), Abdelhakim El-Boustani(University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6106 V3-1431

**2. Reconfigurable and Efficient FFT/IFFT Architecture**
Marie-Eve Grandmaison (École de technologie supérieure), Canada, Jean Belzile (Ecole de Technologie Supérieure, Canada), Claude Thibeault (École de technologie supérieure, Canada) and Francois Gagnon (Ecole de Technologie Superieure, Canada) 5977 V2-1115

**3. An Efficient FFT Algorithm Based on the Radix-2/4 DIF Approach for Computing 3-D DFT**
Saad Bouguezel (Concordia University, Canada), M.O. Ahmad (Concordia University, Canada), M.N.S. Swamy (Concordia University, Canada) 5981 V2-1131

**4. Evaluation of Image Corner Detectors for Hardware Implementation**
Wenxin Wang (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6046 V3-1285

**5. A Study ofOutliers for robust Independent Component Analysis**
Neil Gadhok (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6098 V3-1421

**Break : 15:50 – 16:10**

**6. Mammographic Information Analysis through Association-Rule Mining**
Xiaozheng Wang (University of Calgary, Canada), Michael R. Smith (University of Calgary, Canada) and Rangaraj M. Rangayyan (University of Calgary, Canada) 6126 V3-1495

**7. Extraction des caractéristiques pour la reconnaissance de mots isolés par la méthode des paquets dondelettes**
Samir Hakim Abbou (University of Quebec, Canada), Marcel Gabrea (University of Quebec, Canada) and Christian S. Gargour (University of Quebec,Canada) 5661 V1-0523

**8. Goertzel Implementations of the Forward and Inverse Modified Discrete Cosine Transform**
Trevor W. Fox (Stragitek Corp.) and Alex Carriera (Stragitek Corp.) 7303 V4-2371

**9. Multifractal Spectra of lightning Strike Maps using Entropy and wavelet Analyses**
Aram Faghfouri (University of Manitoba, Canada),Witold Kinsner (University of Manitoba, Canada), David Swatek (Manitoba Hydro, Canada) 6108 V3-1437

**10. Agrégation des propriétés physico-chimiques des acides aminés**
Jean-Luc Falcone (University of Geneva) and Paul Albuquerque (University of Geneva) 6559 V4-1881

## Session (Oral) MA7: Multimedia Signal Processing

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. L. Kondi, State University of New York**

**Room: Hennipen North**

**1. A MPEG-4 XMT Algorithm for Scene Structure Authentication and Content Location**
Ziad Sakr and Nicolas D. Georganas (University of Ottawa, Canada) 5830 V2-0763
**2. RD Optimized, Adaptive, Error-Resilient Transmission of MPEG-4 Coded Video**
Scott Bezan and Shahram Shirani (McMaster University, Canada) 5831 V2-0769
**3. A system for the identification of multi-page web documents**
J. Sweet, (Xerox Corporation, USA), S. Harrington (Xerox Corporation, USA), R. Price Jones (Rochester Institute of Technology, USA), A. Savakis (Rochester Institute of Technology, USA), F. Naveda (Rochester Institute of Technology, USA) and P. Roetling (Xerox Corporation, USA) 5878 V2-0887
**4. An Ultra Low-Power Chopper Stabilized Front-End for Multichannel Cortical Signals Recording**
Benoit Gosselin (École Polytechnique de Montréal, Canada), Virginie Simard (Ecole Polytechnique de Montreal, Canada) and Mohamad Sawan (École Polytechnique de Montréal, Canada) 6954 V4-2259
**5. Combining H.264 and MPEG2 for Multi-resolution Video Applications**
D. Storey and P. Nasiopoulos, (University of British Columbia, Canada) 9003 V4-2415

### Break : 15:50 – 16:10

**6. Flux guiding in an aluminum honeycomb lattice observed through magnetic resonance imaging**
A. E. Marble (University of New Brunswick, Canada), B. G. Colpitts (University of New Brunswick, Canada), B. J. Balcom (University of New Brunswick, Canada) 6547 V4-1865
**7. Demosaicked Image Postprocessing Framework**
Rastislav Lukac (University of Toronto, Canada), Karl Martin (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) 5864 V2-0863
**8. Traitement Numerique de Donnees Thermiques par Thermographie de Phase Pulsee Quantitative Pour L'Evaluation Non-Destructive des Materiaux**
Clemente Ibarra-Castanedo and Xavier Maldague (Université Laval, Canada), 6404 V3-1757
**9. Spatial and Temp Adaptive Error Concealment Algorithm for MPEG-2**
Jihua Cao (Tianjin University, China), Fengting Li (Tsinghua University, China) and Jichang Guo (Tianjin University, China) 5280 V1-0285
**10. A Spatial Domain Error Concealment Algorithm with Texture Recovery for MPEG-2**
Jihua Cao (Tianjin University, China), Fengting Li (Tsinghua University, China) and Jichang Guo (Tianjin University, China) 5249 V1-0265

## Session (Oral) MA8: Software Engineering II

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **S. Lowell, Bell Canada** **Room: Tuscarora**

**1. A Novel Type Checker for Software System Specifications in RTPA**
Xinming Tan (University of Calgary, Canada), Yingxu Wang and Cyprian F. Ngolah (University of Calgary, Canada) 6144 V3-1549

**2. The Implementation of Role Specification Mechanisms**
Haibin Zhu (Nipissing University, Canada) and Pierre Seguin (Nipissing University, Canada) 6062 V3-1329

**3. Development of an Intelligent System for Architecture Design and Analysis**
Jingqiu Shao and Behrouz H. Far (University of Calgary, Canada) 5665 V1-0539

**4. A Request Scheduling Algorithm to Support Flexible Resource Reservations in Advance**
P. L. Chiu and Kuang Wu (Institute of Technology, Taiwan), Y. T. Chen (National Taiwan University of Science and Technology, Taiwan), K. H. Lee (Ming Chuan University, Taiwan), Kai-Hui Lee (University of Ming-Chuan, Taiwan) 6640 V4-1971

**5. An Intelligent Project lifecycle Data Mart-based Decision Support System**
Nora Houari (University of Calgary, Canada) and Behrouz Homayoun Far (University of Calgary, Canada) 5817 V2-0727

### Break : 15:50 – 16:10

**6. An Examination of Mobile Agents System Evolution in the Course-Scheduling Problem**
Yan Yang (University of Regina), Raman Paranjape (University of Regina) and Luigi Benedicenti (University of Regina) 5782 V2-0657

**7. Feelings Based Computer Music**
Maria Goga (School of Music, Romania) and Nicolae Goga (Technical University Eindhoven, The Netherlands) 5796 V2-0673

**8. Extreme Programming in Reducing the Rework of Requirement Change**
Xu Bin (Zhejiang University, China), Yang Xiaohu and He Zhijun (Zhejiang University, China), Srinivasa R. Maddineni (SSGM/Securities Trading IT, USA) 6156 V3-1567

**9. Fractal Agent Modeling In Building Some Software System**
Wenming Song (Tianjin University ,China), Zhiyong Feng (Tianjin University, China) and Wei Jiang (Tianjin University, China) 5337 V1-0345

**10. Intrusion Detection Using Fuzzy Window Markov Model**
Zhoujun Xu (Tianjin University, China), Jizhou Sun (Tianjin University, China) and Wenjie Li (Tianjin University, China) 5745 V2-0645

## Session (Oral) MA9: Power Systems and Quality

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. V. Sood, Concordia University** **Room: Oneida**

**1. Design and Characterization of Variable Attenuators and Phase Shifters with Linearized Bias Control Voltages**
Mohsen Mtimat (Ecole de technologie Supérieure, Canada) and Ammar Kouki (Ecole de Technologie Supérieure, Canada) 5968 V2-1085

**2. Interaction of Market Power and Financial Transmission Rights in Power Networks**
Guillermo Bautista (Univeristy of Waterloo, Canada), Victor H. Quintana (University of Waterloo, Canada) and Jose A. Aguado (University of Malaga, Spain) 5958 V2-1067

**3. Including Kyoto in Electrical Engineering Curriculum**
Mohamed Benhaddadi (École Polytechnique de Montréal, Canada) and Guy Olivier (École Polytechnique de Montréal, Canada) 5991 V2-1147

**4. Classification of Transients in Power Systems using Multifractal Analysis**
Leila Safavian (University of Manitoba, Canada), Witold Kinsner (University of Manitoba, Canada) and Hilmi Turanli (Manitoba Hydro, Canada) 6110 V3-1445

**5. Harmonic Mitigation, Power Factor Correction and Energy Saving with Proper Transformer and Phase Shifting Techniques**
Jean-Guy Boudrias (Hammond Power Solution, Canada) 5031 V1-0133

### Break : 15:50 – 16:10

**6. Line and Neutral Current Harmonics Characteristics in Three-Phase Computer Power Systems**
Éloi Ngandui (Université du Québec à Trois-Rivières, Canada) and Dalil Paraiso (Université du Québec à Trois-Rivières, Canada) 6251 V3-1659

**7. Static Transfer Switch (SWS) Model in EMTPWorks RV**
Chunhong He and Feng Li (Concordia Unviersity, Canada), V. K. Sood (Concordia University, Canada) 4953 V1-0111

**8. Wind Power in Power Generation Planning**
Rajesh Karki (University of Saskatchewan, Canada) 6133 V3-1511

**9. Voltage-Reactive Power Integrated Optimization Considering Operational Cost and Equipment Endurance**
Renjun Zhou (Huazhong University of Science and Technology, China), Hui Zhou (Wuhan University, China) and Xianzhong Duan (Huazhong University of Science and Technology, China) 5964 V2-1077

**10. Dynamic Economic Dispatch in Restructured Power Systems Considering Transmission Costs Using Genetic Algorithm**
S.H. Hosseini and M. Kheradmandi (Sharif University of Technology, Iran) 6177 V3-1625

## Session (Oral) MA10: Special Session on Optical Wireless Access Networks

**Monday, May 03, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. X. N. Fernando, Ryerson University** **Room: Auditorium**

**1. Integrated Optical/Wireless Networking**
Shafiq Hashmi and Hussein Mouftah (University of Ottawa, Canada) 6817 V4-2095

**2. Transparent Fiber -Optic System to Extend Digital Subscriber Line Service**
David D. Dodds (University of Saskatchewan, Canada), Oliver Cruder (Critical Telecom Inc., Canada) and Mark Labbe (Critical Telecom Inc., Canada) 6894 V4-2189

**3. Characteristics of Directly Modulated ROF Link for Wireless Access**
Xavier N. Fernando (Ryerson University, Canada) and Abu B. Sesay (University of Calgary, Canada) 6880 V4-2167

**4. Performance of Clipped OFDM Signal in Fiber**
Debashis Chanda (University of Calgary, Canada), Abu B. Sesay (University of Calgary, Canada) and Bob Davies (University of Calgary, Canada) 7573 V4-2401

**5. A CMOS Analogue Predistortion Circuit for Wideband Optical Fibre Links**
Fu-Chuan Lin and David M. Holburn (University of Cambridge, UK), Vinod A. Lalithambika and Robert J. Mears (University of Cambridge, UK), Chak H. Hum and Stuart D. Walker (University of Essex, UK) 5228 V1-0245

**6. Performance of External Modulators for Wireless Local Area Networks under Multi-Path Fading**
Tolga Kurt (University of Ottawa, Canada), Abbas Yongacoglu (University of Ottawa, Canada) and Jean-Yves Chouinard (Laval University, Canada) 5273 V1-0277

**7. Radio Over Multimode Fiber for Wireless Access**
Roland Yuen (Ryerson University, Canada), Xavier N. Fernando (Ryerson University, Canada) and Sridhar Krishnan (Ryerson University, Canada) 6317 V3-1715

**8. An Implementation of a Residential Gateway Controller for a Fixed Bandwidth-sharing Multiservice Residential Access Network**
Tianying Ji (Wilfrid Laurier University, Canada), Shaowen Song (Wilfrid Laurier University, Canada) and Li Wei (Wilfrid Laurier University, Canada) 3945 V1-0023

**9. The Interface Design for a Residential Gateway in a SONET over DWDM Broadband Access Network**
Wei Zhang (University of Guelph, Canada), Jiandong Zheng (University of Guelph, Canada), Shaowen Song (Wilfrid Laurier University, Canada), Tianying Ji (Wilfrid Laurier University, Canada) and Li Wei (Wilfrid Laurier University, Canada) 5270 V1-0269

## MONDAY, May 3, 2004

**Reception** at the **Oakes Foyer.** **Open to all delegates.**

# IEEE Canada Awards Banquet

**TIME: 18:30-22:00**
**PLACE: Oakes Ballroom**
**By ticket only.**

**Speaker: Dr. Ray Findlay, President IEEE 2002.**

***"Background to the Sunday dedication ceremony at Decew Falls. The IEEE Milestone Program"***

**AWARDS TO BE PRESENTED AT THE 2004 BANQUET**

- **E.F. Glass Western Canada Council Merit Award**
- **M.B. Broughton Central Canada Council Merit Award**
- **J.J. Archambault Eastern Canada Council Merit Award**
- **W.S. Read Outstanding Service Award**
- **Outstanding Engineering Educator Award**
- **Outstanding Engineer Award**
- **R.A. Fessenden Medal**
- **A.G.L. McNaughton Medal**

# Tuesday, May 4

## *Plenary Session 2*

TIME: 08:15 - 09:15
ROOM: Oakes Ballroom

# Address by:

# The 2004 Winner

# of

# The McNaughton Medal

# Topic: To Be Announced

## Session (Oral) TM1: Modulation and Coding

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. L. Szczecinski, INRS Canada** **Room: Tuscarora**

**1. Irregular Rate-Compatible LDPC Codes for Capacity Approaching Hybrid-ARQ Schemes**
Mohammadreza Yazdani (Carleton University, Canada) and Amir H. Banihashemi (Carleton University, Canada) 5286 V1-0303

**2. Rate Design Rule for Superposition Coded Modulations**
Gunes Karabulut (University of Ottawa, Canada) and Abbas Yongacoglu (University of Ottawa, Canada) 5400 V1-0365

**3. Structured LDPC over URN Model Channels with Memory**
Vijay Nagarajan (University of Colorado, Boulder) and Olgica Milenkovic (University of Colorado, Boulder) 5666 V1-0543

**4. Generalized Asymmetric Multi-h Phase-Coded Modulation for M-ary Data Transmission**
Bhumi A. Dave (University of Western Ontario, Canada) and Raveendra K. Rao (University of Western Ontario, Canada) 5676 V1-0559

**Break : 10:50 – 11:00**

**5. Drift -Controlled Scalable Video Coding in Over-Complete Wavelet Domain**
Vidhya Seran (State University of New York at Buffalo, USA) and Lisimachos Kondi (State University of New York at Buffalo, USA) 5837 V2-0789

**6. Continuous Time Bandpass Delta-Sigma Modulators for a Software Defined Radio**
Robert Sobot (Simon Fraser University, Camada), Shawn Stapleton (Simon Fraser University, Canada) and Marek Syrzycki (Simon Fraser University, Canada) 6034 V3-1253

**7. Construction of Lattices from LDPC Codes**
Mohammad Reza Rafsanjani Sadeghi (Carleton University, Canada), Amir H Banihashemi (Carleton University, Canada) and Daniel Panario (Carleton University, Canada) 6085 V3-1393

**8. Analytical Evaluation of Turbo Multiuser Detection Algorithms**
Nedal Elhelw (INRS Energy, Materials and Telecommunications, Canada), Cesar Hermosilla (Universidad Tecnica Federico Santa Maria, Chile) and Leszek Szczecinski (INRS Energy, Materials and Telecommunications, Canada) 6091 V3-1405

## Session (Oral) TM2: CDMA

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** Dr. P. Kafle, TRLabs **Room: Canadiana**

**1. A Novel Approach to Call Blocking Probability Evaluation in Multiservice CDMA**
Keivan Navaie (Carleton University, Canada) and Farid Fadaie (University of Toronto, Canada) 5178 V1-0197

**2. A Pilot Power Based Power Control and Base Station Assignment Algorithm in Cellular CDMA Networks**
Maheswaran Subramaniam (Ryerson University,Canada) and Alagan Anpalagan (Ryerson University, Canada) 5313 V1-0327

**3. On The Improvement of RLS Channel Estimation in Forward Link of MC-CDMA Systems**
Pariya Khunabut (Chulalongkorn University, Thailand), Suwich Kunaruttanapruk (Chulalongkorn University, Thailand), Pruksa Tansongcharoen (Chulalongkorn University, Thailand) and Somchai Jitapankul (Chulalongkorn University, Thailand) 5729 V2-0621

**4. Design Issues and Performance Analysis of CDMA Multi-beam Satellites**
Ozgur Ekici (University of Ottawa, Canada) and Abbas Yongacoglu (University of Ottawa, Canada) 5952 V2-1053

**Break : 10:50 – 11:00**

**5. A Coordinated Location-Based Downlink Scheduling Scheme (CLDSS) in a Cellular CDMA Network with Partitioned Cells**
Gang Wu (Ryerson University, Canada) and Alagan Anpalagan (Ryerson University, Canada) 5512 V1-0415

**6. Combined Admission Control Algorithm and Bandwidth Adaptation Algorithm in Multimedia Cellular Networks for QoS Provisioning**
Nidal Nasser (Queen's University, Canada) and Hossam Hassanein (Queens University, Canada) 6004 V2-1183

**7. Adaptive Soft-Input Soft-Output Multiuser Detection for Coded CDMA Systems**
Wei Zhang (University of Ottawa, Canada), Claude D'Amours (University of Ottawa, Canada) and Abbas Yongacoglu (University of Ottawa, Canada) 6011 V2-1203

**8. Adaptive Cancellation of Periodic Noise and Multipath Dispersion in an Infrared Wireless CDMA System**
Balakanthan Balendran (Ryerson University, Canada) and Xavier N. Fernando (Ryerson University, Canada) 5179 V1-0201

## Session (Oral) TM3: Wireless LAN / Satellite Communications

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. N. Sangari, RIM Canada** **Room: Haida**

**1. Security Issues of the 802.11b Wireless LAN**
Hamid Boland (Carleton University, Canada) and Hamed Mousavi (Carleton University, Canada) 5316 V1-0333

**2. Error Recovery Service for IEEE 802.11b Protocols via Adaptive Forward Error Correction and Dynamic Packet Sizing**
Mohammed Smadi (McMaster University, Canada), Varna Szabados (McMaster University, Canada) and Barna Szabados (McMaster University, Canada) 5317 V1-0337

**3. QoS In IEEE 802.11 Wireless LAN: Current Research Activities**
Francisco Mico (Universitat de Valencia, Spain), Pedro Cuenca (University of Castilla-La Mancha, Spain) and Luis Orozco-Barbosa (University of Castilla-La Mancha, Spain) 5587 V1-0447

**4. Performance Analysis of Real-time Traffic in Wireless LANs**
Huifang Feng (Tianjin University, China) and Yantai Shu (Tianjin University, China) 5926 V2-1013

### Break : 10:50 – 11:00

**5. Performance Evaluation and Total Degradation of 16-QAM Modulations over Satellite Channels**
Hisham AbdulHussein Al-Asady (Queen's University, Canada) and Mohamed Ibnkahla (Queen's University, Canada) 6006 V2-1187

**6. An Advanced Broadband Satellite System Offering High-Speed Internet Access and TV Broadcast Services**
Ali Grami (University of Ontario Institute of Technology, Canada) 5302 V1-0311

**7. Controlled Load Service Management in Int-Serv Satellite Access Networks**
Floriano De Rango (University of Calabria, Italy), Mauro Tropea (University of Calabria, Italy) and S. Marano (University of Calabria, Italy) 6895 V4-2193

**8. Security Issues in Wireless Local area Networks**
Debabrata Nayak (Indian Institute of Technology Bombay, India), N. Rajendran (IDRBT), D. B. Phatak(IDRBT) and V.P. Gulati (Indian Institute of Technology Bombay, India) 6198 V3-1637

**9. Intrusion Detection for Wireless Local Area Network**
Hongyu Yang (Civil Aviation University of China, China), Lixia Xie (Civil Aviation University of China, China) and Jizhou Sun (Tianjin University, China) 6608 V4-1949

## Session (Oral) TM4: Switching, Routing and Networking

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. T. Ganesh Babu, Ryerson University** **Room: Chippawa**

**1. Pie: Scalable Routing in Peer-to-Peer Networks**
Peter Lichodzijewski (Dalhousie University, Canada), Leigh Wetmore (Dalhousie University, Canada) and A. N. Zincir-Heywood (Dalhousie University, Canada) 4265 V1-0051

**2. Adaptive Measurement-Based Admission Control using Neural Network Predictor**
Nayera Sadek (Southern Methodist University, USA), Alireza Khotanzad (Southern Methodist University, USA) and Thomas Chen (Southern Methodist University, USA) 5863 V2-0859

**3. A Robust Packet -Filtering Method For High -Bandwidth Aggregates**
Bao-Tung Wang (Columbia University) and Henning Sehulzrinne (Columbia University) 5886 V2-0905

**4. Design and Implementation of Enhanced Crossbar CIOQ Switch Architecture**
Atiq Awan (Memorial University of Newfoundland, Canada), and Ramachandran Venkatesan (Memorial University of Newfoundland, Canada) 5948 V2-1045

### Break : 10:50 – 11:00

**5. The Performance of TCP Congestion Control Algorithm over High-Speed Transmission Links**
Z. Chen (Concordia University, Canada), Mustafa Mehmet Ali (Concordia University, Canada) 6078 V3-1371

**6. Enhanced EPON Auto-discovery For Fast Network and Service Recovery**
Wenfeng Chen (Nortel Networks, Canada), Delfin Y. Montuno (Nortel Networks, Canada) and Kent Felske (Nortel Networks, Canada) 6283 V3-1683

**7. Simulation of Lead-Time Scheduling in PMP FWA Networks**
Robert Buchnajzer (Concordia University, Canada), J. William Atwood (Concordia University, Canada) and Adam Krzyzak (Concordia University, Canada) 6292 V3-1693

**8. IFF: A Novel Wavelength Assignment Scheme for WDM Optical Networks**
Abdelhamid Eshoul (University of Ottawa, Canada), Hussein Mouftah (University of Ottawa, Canada) 5903 V2-0965

**9. Adaptive Shortest Path Routing in GMPLS-based Optical Networks Using Fuzzy Link Costs**
Bin Zhou (Queen's University, Canada), Hussein Mouftah (University of Ottawa, Canada) 6240 V3-1653

## Session (Oral) TM5: Special Session on Abstraction, Modelling and Simulation

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. A. Lawniczak, University of Guelph** **Room: Auditorium**

**1. Link-Layer Modeling of a Wireless Channel Using Stochastic Network Calculus**
Farshid Agharebparast (University of British Columbia, Canada) and Victor C. M. Leung (University of British Columbia, Canada) 6597 V4-1923

**2. Multiple Abstraction Schemes for Generalized Virtual Private Switched Networks**
Ravi S. Ravindran(Nortel Networks, Canada), Peter Ashwood-Smith(Nortel Networks, Canada), Hong Zhang (Nortel Networks, Canada) and Guo-Qiang Wang (Nortel Networks, Canada) 5660 V1-0519

**3. Models and Tools for Simulation of Video Transmission on Wireless Networks**
Jian Zhu (Carleton University, Canada), Ashraf Matrawy (Carleton University, Canada) and Ioannis Lambadaris (Carleton University, Canada) 5834 V2-0781

**4. End-to-End Rate Control for Networks with Random Access Links**
Clement Yuena and Peter Marback (University of Toronto) 9008 V4-2437

**Break : 10:50 – 11:00**

**5. An Application Framework for Mobile Internet Services**
Aladdin Sleh (Bell Canada), Davison Avery and Mohammed Siddiqui (Bell Canada) 5551 V1-0439

**6. Effects of Network Connection Topology and Routing Algorithm on Phase Transition and Throughput in Packet-Switching Network Model**
A. T. Lawniczak (University of Guelph, Canada), K. P. Maxie (University of Guelph, Canada), A. Gerisch (University of Halle, Germany) 9004 V4-2421

**7. Effects of Network Topology and Routing on Traffic in Packet-Switching Network Model**
A. T. Lawniczak (University of Guelph, Canada), K. P. Maxie (University of Guelph, Canada) and A. Gerisch (University of Halle, Germany) 9006 V4-2429

**8. Study of Packet Average Path Length and Average Speed of Delivery in Data Network Traffic Model**
K.P. Maxie and A.T. Lawniczak (University of Guelph, Canada) and A. Gerisch (University of Halle, Germany) 9007 V4-2433

**9. Effects of an Extra Link and Routing on Spatio-Temp Packet Traffic Dynamics of Network Model**
K.P. Maxie (University of Guelph, Canada), A.T. Lawniczak (University of Guelph, Canada) and A. Gerisch (University of Halle, Germany) 9005 V4-2425

## Session (Oral) TM6: Modeling and Simulation I

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. W. Li, University of Wisconsin** **Room: Cree**

**1. Design and Simulation of Laser Diode with Sampled Grating Structure by the Split-step Traveling Wave Approach**
Wei Li (University of Wisconsin-Platteville, USA), W. P. Huang (McMaster University, Canada) and X. Li (McMaster University, Canada) 6862 V4-2151

**2.A Novel Temperature-Dependent Gummel-Poon Based Large Signal for Accurate Modeling of Heterojunction Bipolar Transistors**
Ammar Issaoun (École de Technologie Supérieure, Canada), D. Dousset (École Polytechnique de Montreal, Canada), A.B. Kouki (École de Technologie Supérieure, Canada) and F.M. Ghannouchi (École Polytechnique de Montreal, Canada) 4199 V1-0027

**3. Analytic Modeling and FEM Simulation of a Resonant Micromachined Magnetic Field Sensor**
Behraad Bahreyni (University of Manitoba, Canada) and Cyrus Shafai (University of Manitoba, Canada) 5171 V1-0189

**4. Creation of Scalable Macromodels for Micro-Electromechanical Systems**
Bryan Wan Sai Cheong (Carleton University, Canada), Adam Froimovitch (Carleton University, Canada), Thomas Hewitt (Carleton University, Canada), Tom Smy and Pavan Gunupudi (Carleton University, Canada) 5274 V1-0281

### Break : 10:50 – 11:00

**5. An Advanced Quasi-3D Model for Semiconductor Optical Amplifiers**
Wei Li (University of Wisconsin-Platteville, USA), G. X. Chen (McMaster University, Canada), W. P. Huang ( McMaster University, Canada) and X. Li (McMaster University, Canada) 6854 V4-2131

**6. Global Routing for VLSI Standard Cells**
Hao Sun (University of Guelph, Canada) and Shawki Areibi (University of Guelph, Canada) 5645 V1-0485

**7. Scaling Expressions for DC Parameters of a Gummel-Poon Based model for HBT's**
Ammar Issaoun (École de Technologie Supérieure, Canada), A.B. Kouki (École de Technologie Supérieure, Canada) and F.M. Ghannouchi (École Polytechnique, Canada) 4204 V1-0035

**8. A Multiresolution Reconstructive Algorithm Based on Network Theory for Electrical Capacitance Tomography**
Zhao Ma (Wuhan University, China), Xiaoming Lin (Wuhan University, China) and Hongqing Zeng (Carleton University, Canada) 4949 V1-0107

## Session (Oral) TM7: Watermarking and Retrieval I

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. O. Ahmed, Concordia University** **Room: Hennipen North**

**1. A Rectification Method for RST Invariant Digital Image Watermarking**
Yan Liu (University of Ottawa, Canada) and Jiying Zhao (University of Ottawa, Canada) 5662 V1-0527

**2. Multibit Data Hiding Based on CDMA**
Yongqing Xin (University of Manitoba, Canada) and Mirek Pawlak (University of Manitoba, Canada) 5893 V2-0935

**3. Object-Based Image Watermarking Technique Using Wavelets**
Jinwen Zan (Concordia University, Canada), M. Omair Ahmad (Concordia University, Canada) and M.N.S. Swamy (Concordia University, Canada) 5988 V2-1143

**4. Personal Identification Based on Both Facial Images and Watermarking Techniques in Network Environment**
Masanori Hashimoto (Kogakuin University, Japan) and Osamu Nakamura (Kogakuin University, Japan) 5941 V2-1029

**Break : 10:50 – 11:00**

**5.Audio Quality Measurement by Using Digital Watermarking**
Libin Cai (University of Ottawa, Canada) and Jiying Zhao (University of Ottawa, Canada) 5994 V2-1159

**6. Performance Evaluation of Collaboration Algorithms in an Agent-based Architecture for Information Retrieval**
Ali Chamam (Ecole polytechnique de Montréal, Canada), Samuel Pierre (Ecole Polytechnique de Montreal, Canada) and Roch Glitho (Ericsson Research Canada, Canada) 6636 V4-1963

**7. Geometrically Robust Image Watermarking via Pseudo-Zernike Moments**
Yongqing Xin (University of Manitoba, Canada), Simon X. Liao (University of Winnipeg, Canada) and Mirek Pawlak (University of Manitoba, Canada) 5894 V2-0939

**8.Digital Watermarking by Using A Feature-based Multiwavelet Fusion Approach**
Jiying Zhao (University of Ottawa, Canada), Zheng Liu (University of Ottawa, Canada) and Robert Laganiere (University of Ottawa, Canada) 5680 V1-0563

## Session (Oral) TM8: Speech and Audio Processing

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Mr. K. Umapathy, University of Western Ontario** **Room: Hennipen South**

**1. Not Available**

**2. Wavelet based Speech Enhancement using Two Different Threshold-based Denoising Algorithms**
A. Lallouani (ETS , University of Quebec, Canada), Marcel Gabrea (ETS, University of Quebec, Canada) and Christian S. Gargour (ETS, University of Quebec, Canada) 5310 V1-0315

**3. Adaptive Processing of Singing Voice Timbre**
Francois Thibault (McGill University, Canada) and Philippe Depalle (McGill University, Canada) 5866 V2-0871

**4. Speech Modeling By Non-Stationary Partials with Time Varying Amplitude and Frequency**
Ying Huang (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6041 V3-1273

### Break : 10:50 – 11:00

**5. AM-FM Decomposition of the Speech Signal Using MWL Criterion**
Reza Rashidi Far (Queens University, Canada) and Saeed Gazor (Queens University, Canada) 6413 V3-1769

**6. Correlation Coefficient-based Voice Activity Detector Algorithm**
Alexandru Craciun (University of Quebec, Canada) and Marcel Gabrea (University of Quebec, Canada) 6459 V3-1789

**7. Real Time Implementation of an Adaptive Filter for Speech Enhancement**
John Creighton (University of New Brunswick, Canada) and Rajamani Doraiswami (University of New Brunswick, Canada) 6901 V4-2201

**8. Improving Speech Analysis Methods for Robust Automatic Recognition**
Douglas O'shaughnessy (INRS-Universite du Quebec,Canada) 5115 V1-0161

## Session (Oral) TM9: Transmission and Distribution Systems

**Tuesday, May 04, 2004** **TIME: 9:30 – 12:20**

**CHAIR:** **Dr. A. M. Gaouda, United Arab Emirates University** **Room: Ontario**

**1. An Electromagnetic Transient Simulation Model for Voltage Sourced Converter Based HVDC Transmission**
Behzad Qahraman (University of Manitoba, Canada), Ebrahim Rahimi (University of Manitoba, Canada) and Aniruddha M. Gole (University of Manitoba, Canada) 5957 V2-1063

**2. Monitoring Capacitor Banks Interaction in Distribution Systems**
Ahmed M. Gaouda (United Arab Emirates University, UAE) 6438 V3-1781

**3. Expansion of Transmission Systems in a Deregulated Environment**
Yong Zheng (Saskatchewan Power Corporation, Canada) and Nurul Chowdhury (University of Saskatchewan, Canada) 6604 V4-1943

**4. Dynamic Analysis of Transmission Line Connection in Restoration of Interconnected Power Systems**
Morteza Kheradmandi (Sharif University of Technology, Iran) and M. Ehsan (Sharif University of Technology, Iran) 6176 V3-1621

**Break : 10:50 – 11:00**

**5. Identification and synthesis of the models electromechanical energy converters**
Alexander Shaydurov (McGill University, Canada) 5652 V1-0501

**6. Power Flow Control and Loss Minimization with UPFC**
Alireza Farhangfar (University of Alberta, Canada), S. Javad Sajjadi (University of Tehran, Iran) and Saeed Afsharnia (University of Tehran, Iran) 5445 V1-0385

**7. Finite Element Analyses in the Design Optimization of Winding Support and Tank Wall of Power Transformers**
Erich Schmidt (Vienna University of Technology, Austria), Peter Hamberger (Transformatoren GmbH & Co, Austria) 5928 V2-1021

**8. Evaluation of Magnetic Field from Different Power Transmission Line Configurations in Malaysia**
Ismail Said (Universiti Tenaga Nasional, Malaysia), Nazaruddin A Rahman and Halil Hussain (Universiti Tenaga Nasional, Malaysia), Ahmed Farag and T. Juhana (Universiti Tenaga Nasional, Malaysia) 5454 V1-0393

## Session (Oral) TM10: Computer Architecture

**Tuesday, May 04, 2004** **TIME: 9:30 -12:20**

**CHAIR:** **Mr. G. Bailak, MD Robotics** **Room: Oneida**

**1. Performance Analysis of Clustered Processors**
Sepehr Zarrabi (University of Victoria, Canada) and Amirali Baniasadi (University of Victoria, Canada) 5902 V2-0959

**2. A Reliability Study on Switching Fabric Based System Architecture**
Alice Rueda (University of Manitoba, Canada) and Mirek Pawlak (University of Manitoba, Canada) 5924 V2-1005

**3. Withdrawn** 6030

**4. An Improved on-line Monitoring Technique for a Fault-tolerant Computing Node**
Musbah Elahresh (University of Belgrade), Jovan Djordjevic (University of Belgrade), Milo Tomasevic (University of Belgrade) and Milivoje Aleksic (ATI Technologies, Canada) 6148 V3-1553

**Break : 10:50 – 11:00**

**5. A Review of the Single Event Effects Performance of x86 Microprocessors**
David M. Hiemstra (MD Robotics, Canada) and George Bailak (MD Robotics, Canada) 7018 V4-2341

**6. Improving performance of a DSM system by the communication controller optimizations**
Milan Tončev (Alcatel, Canada), Milo Tomasevic ( University of Belgrade), Jovan Djordjevic (University of Belgrade) and Milivoje Aleksic (ATI Technologies, Canada) 5943 V2-1035

**7. A New Approach for Configuration Compression in Virtex Based RTR Systems**
Farshid Farshadjam (Iran University of Sci. & Technology, Iran), Mahmood Fathy (Iran University of Sci. & Technology, Iran) and Mehdi Dehghan (Amirkabir University of Technology, Iran) 5970 V2-1093

**8. Object-Aware Cache: Higher Hit-Ratio in Object-Oriented ASIPs**
Maziar Goudarzi (Sharif University of Technology, Iran), Shaahin Hessabi (Sharif University of Technology, Iran) and Alan Mycroft (University of Cambridge, UK) 5752 V2-0653

# Tuesday, May 4

## Student Paper Award Lunch:

TIME: 12.30-14.15
PLACE Oakes Ballroom

**OPEN TO ALL DELEGATES**

**Student Paper Contest Winners will be announced.**

## Guest speaker: Terry Peach

### Manager - Organization and Staffing
### GE Canada.

### Sponsored by GE Canada

## Session (Oral) TA1: MIMO/OFDM/CDMA Systems

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. K. M. Ahmed, Asian Institute of Technology** **Room: Canadiana**

**1. A Novel Parallel Detection Architecture For Modular MIMO Receivers**
Zouheir Rezki (Ecole de Technologie Supérieure, Canada), Francois Gagnon (Ecole de Technologie Superieure, Canada) and Jean Belzile (Ecole de Technologie Supérieure, Canada) 5993 V2-1155

**2. Spatial-Temp-Frequency Decomposition for 3D MIMO Microcellular Environments**
Hamidreza Saligheh Rad (Queens University, Canada), Saeed Gazor (Queens University, Canada ) and Kamal Shahtalebi (Shahrekord University, Iran) 6020 V3-1229

**3. A Cross-Layer Design for MIMO Rayleigh Fading Channels**
Amine Maaref (University of Quebec, Canada) and Sonia Aissa (University of Quebec, Canada) 6935 V4-2247

**4. Performance analysis of a low complexity space-time detector in Rayleigh fading environments**
Naveen Mysore and Jan Bajcsy (McGill University, Canada) 6966 V4-2271

**5. OFDMA for the 4th Generation Cellular Networks**
Gholamreza Parsaee (Iran Telecommunication Research Center, Iran) and Abdulrahman Yarali (Murray State University, USA) 6993 V4-2325

### Break : 15:50 – 16:10

**6. A Novel Technique for Peak to Average Power Ratio Reduction in OFDM Systems**
Mohammad E.R. Khan (Asian Institute of Technology, Thailand), Kazi M. Ahmed (Asian Institute of Technology,Thailand) 5135 V1-0165

**7. Signal-to-Interference Ratio Estimation in CDMA Systems**
Mohamed Abou-Khousa and Ali Ghrayeb (Concordia University, Canada) and Mohamed El-Tarhuni (American University of Sharjah, UAE) 6064 V3-1333

**8. Implementation and Field Test of a New Channel Estimation Technique for DVB-T System**
Sili Lu (Laval University, Canada), Assia Semmar (Laval University, Canada), Xianbin Wang (Communication Research Centre, Canada), Yiyan Wu (Communication Research Centre, Canada), Jean-Yves Chouinard (Laval University, Canada) and Paul Fortier (Laval University, Canada) 6067 V3-1343

**9. On the Influence of the Temporal Parameters of a New Generalized Sidelobe Canceller Receiver in a Multipath Environment**
K. Ghanem and A. T. Denidni (University of Quebec, Canada) 6123 V3-1487

**10. A novel Multiuser Subcarrier and Bit Joint Allocation Algorithm For OFDM System**
Peng Wang (Tianjin University, China), Yu Zhao (Tianjin University, China) Chunping Hou ( Tianjin University, China) and Dazhong Cao ( Tianjin University, China) 5444 V1-0381

## Session (Oral) TA2: Ad-hoc Networks

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. N. Georganas, University of Ottawa** **Room: Haida**

**1. Connectivity in Inter-vehicle Ad Hoc Networks**
Maen M. Artimy (Dalhousie University, Canada), William Robertson (Dalhousie University, Canada) and William J. Phillips (Dalhousie University, Canada) 5284 V1-0293

**2. MUNet: Multicasting Protocol in Unidirectional Ad-hoc Networks**
Noparut Vanitchanant (University of Southern California, USA), John Silvester (University of Southern California, USA) and Virote Vipanunt (IEEE Computer Society) 5905 V2-0975

**3. Connectivity Maintenance and Coverage Preservation in Wireless Sensor Networks**
Di Tian (University of Ottawa, Canada) and Nicolas D. Georganas (University of Ottawa, Canada) 5971 V2-1097

**4. A Network Layer Based Architecture for Service Discovery in Mobile AD HOC Networks**
Jerry Tyan (University of Guelph, Canada) and Qusay H. Mahmoud (University of Guelph, Canada) 6080 V3-1379

**5. Efficient Available Bandwidth Estimation in Ad Hoc Networks**
Liang Zhang (Tianjin University, China), Yantai Shu (Tianjin University, China), Yan Liu (Tianjin University, China) and Guanghong Wang (Tianjin University, China) 5738 V2-0633

### Break : 15:50 – 16:10

**6. Adaptive Gossip-Based Energy Conservation for Wireless Ad Hoc Routing**
Xiaobing Hou and David Tipper (University of Pittsburg, USA) 6823 V4-2099

**7. Evaluation of Ad hoc Networking Over the Fixed 3G Backbone**
Ahmed Barnawi (University of Bradford, UK) and John G. Gardiner (University of Bradford, UK) 6170 V3-1605

**8. A TCP Congestion Control Algorithm for Wireless Internet Connections**
H. Yaiche, S. Pierre and A. Quintero A (Ecole Polytechnique de Montreal, Canada) 6463 V3-1797

**9. Authenticated Secure Communications in Mobile Ad hoc Networks**
Muhammad Junaid Bohio (University of Ottawa, Canada) and Ali Miri (University of Ottawa, Canada) 6289 V3-1689

**10. Strategyproof Trust Management in Wireless Ad Hoc Network**
Huiping Sun (Beijing University of Posts and Telcommunications, China), Junde Song (Beijing University of Posts and Telecommunications, China) 6167 V3-1593

## Session (Oral) TA3: Image Processing II

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. J. Alirezaie, Ryerson University** **Room: Hennipen South**

**1. A Hybrid Algorithm Using Discrete Cosine Transform and Gabor Filter Bank for Texture Segmentation**
Nezamoddin Nezamoddini-Kachouie (Ryerson University, Canada), Javad Alirezaie (Ryerson University, Canada), Paul Fieguth (University of Waterloo, Canada) 6469 V3-1805

**2. Optimization Algorithm for Restoring an All-Focused Micromechanical Structure Image**
Tina Shoa (University of Manitoba, Canada), Cyrus Shafai (University of Manitoba, Canada), Gabriel Thomas (University of Manitoba, Canada) and Alireza Shoa (McMaster University, Canada) 6307 V3-1707

**3. Multispectral Imaging of Ice**
Dennis Gregoris (MD Robotics Limited, Canada), Simon Yu (MD Robotics Limited, Canada) and Frank Teti (MD Robotics Limited, Canada) 6753 V4-2051

**4. Joint Blind Deconvolution, Fusion and Classification of Multi-frame Imagery**
Jianxin Han (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 6777 V4-2061

**5. A Comparative Study of Fourier Descriptors and Hu's Seven Moment Invariants for Image Recognition**
Qing Chen (University of Ottawa, Canada), Emil Petriu (University of Ottawa, Canada), Xiaoli Yang (Lakehead University, Canada) 4895 V1-0103

### Break : 15:50 – 16:10

**6. A Hybrid Range Imaging System Solution for In-Flight Space Shuttle Inspection**
Ross Gillett (MD Robotics Limited, Canada), Andrew Kerr (MD Robotics Limited, Canada), Christian Sallaberger (MD Robotics Limited, Canada), Daven Maharaj (Optech Incorporated, Canada), Eric Martin (Optech Incorporated, Canada), Robert Richards (Optech Incorporated, Canada) and A. Ulitsky (Optech Incorporated, Canada) 6861 V4-2147

**7. Design of an Electronic Saccadic Imaging System**
Winnie Wong (York University, Canada) and Richard Hornsey (York University, Canada) 6916 V4-2227

**8. On Modeling and Turbo Compression of Grayscale Images in the Slepian-Wolf Context**
Isabel Deslauriers (McGill University, Canada) and Jan Bajcsy (McGill University, Canada) 6973 V4-2297

**9. Identifying Distinguishing Size and Shape Features of Mine-like Objects in Sidescan Sonar Imagery**
Patrick C. Connor (University of New Brunswick, Canada) and Maryhelen Stevenson (University of New Brunswick, Canada) 6038 V3-1263

## Session (Oral) TA4:Watermarking and Retrieval II

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. N. Boulgouris, University of Toronto** **Room: Hennipen North**

**1. Fused Watermark Detection on Noisy Interpolated Images**
Alexia Giannoula (University of Toronto, Canada), Nikolaos Boulgouris (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 5998 V2-1171

**2. RST Invariant Digital Image Watermarking based on Resynchronization**
Dong Zheng (University of Ottawa, Canada) and Jiying Zhao (University of Ottawa, Canada) 6045 V3-1281

**3. Minimizing Human-Machine Interactions in Automatic Image Retrieval**
Kambiz Jarrah (Ryerson University, Canada), Paisarn Muneesawang (Ryerson University, Canada), Ivan Lee (University of Sydney, Australia) and Ling Guan (Ryerson University, Canada) 6164 V3-1589

**4. A Novel Robust Image Watermarking Using a Chirp Based Technique**
Arunan Ramalingam (Ryerson University, Canada), Sridhar Krishnan (Ryerson University, Canada) 6562 V4-1889

**5. A Novel Blind Watermarking Based on Lattice Vector Quantization**
Xiaoqiang Li and Xiangyang Xue (Fudan University, China) 6506 V3-1823

### Break : 15:50 – 16:10

**6. Neural-fuzzy Approach for Content-based Retrieval of Digital Video**
Siddhivinayak Kulkarni (Nipissing University, Canada) 6930 V4-2235

**7. Analysis of distance based indexing methods for similarity search**
Mahdi Mirzazadeh (University of Waterloo, Canada) and Bashir S. Sadjad (University of Waterloo, Canada) 7483 V4-2391

**8. A Wavelet Transform Based Digital Image Watermarking Scheme**
Mohammad Aboofazeli (University of Manitoba, Canada), Gabriel Thomas (University of Manitoba, Canada) and Zahra Moussavi (University of Manitoba, Canada) 5854 V2-0823

**9. A Steganalysis Method, New Fragile Watermark Algorithm and Its Applications**
Dong Wang (Tianjin University, China), Mingchu Li (Tianjin University, China) and Jizhou Sun (Tianjin University, China) 5726 V2-0613

## Session (Oral) TA5: Biomedical Signal and Image Analysis

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. S. Krishnan, Ryerson University** **Room: Chipppawa**

**1. An Improved Method for Muscle Activation Detection During Gait**
Lanyi Xu (University of Ottawa, Canada) and Andy Adler (University of Ottawa, Canada) 5368 V1-0357

**2. Functional Mapping of Multiple Mechanomyographic Signals to Hand Kinematics**
Adam Grossman (University of Toronto, Canada), Jorge Silva (Bloorview Macmillan Children's Centre, Canada) and Tom Chau (Bloorview Macmillan Children's Centre, Canada) 5649 V1-0493

**3. Relationship between Airflow and Frequency- Based Features of Tracheal Respiratory Sound**
Marziyeh Golabbakhsh (University of Manitoba, Canada) and Zahra Moussavi (University of Manitoba, Canada) 5826 V2-0751

**4. Biomedical Data Classification Using Hierarchical Clustering**
Hu Yang (University of Manitoba, Canada) and N.J. Pizzi (Institute for Biodiagnostics, National Research Council, Canada) 6546 V4-1861

**5. Multifractal Characterization of Synthetic ECG in the Presence of Coloured Noise**
Michael Potter (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6915 V4-2221

**Break : 15:50 – 16:10**

**6. A Novel Way of Lossless Compression of Digital Mammograms Using Grammar Codes**
Xiaoli Li (Ryerson University, Canada), Sridhar Krishnan (Ryerson University, Canada) and Ngok-Wah Ma (Ryerson University, Canada) 6815 V4-2085

**7. A Multifractal Analysis Approach for SAR Image Segmentation**
Abdelhakim El-Boustani (University of Manitoba, Canada), Sharjeel Siddiqui (University of Manitoba, Canada), Witold Kinsner (University of Manitoba, Canada) Slawo Wesolkowski (University of Waterloo, Canada) 6103 V3-1427

**8. A Novel Morphologial-based Carotid Artery Contour Extraction**
Amr R. Abdel-Dayem (University of Western Ontario, Canada) and Mahmoud R. El-Sakka (University of Western Ontario, Canada) 6551 V4-1873

**9. A Computer Method for Synthesizing Lung Nodules**
Maciej Dajnowiec (Ryerson University, Canada), Javad Alirezaie (Ryerson University, Canada) 6060 V3-1325

## Session (Oral) TA6: Power Converters and Motor Drives

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. H. Karmaker, GE Canada** **Room: Ontario**

**1. Development of a Neuro-Fuzzy Controller for Induction Motor**
Hao Wen (Lakehead University, Canada) and Mohammad Nasir Uddin (Lakehead University, Canada) 6018 V3-1225

**2. Stability Conditions of Adaptive Pseudo-Reduced-Order Flux Observer for Vector-Controlled Sensorless IM Drives**
Hossein Madadi Kojabadi (University of New Brunswick, Canada), Liuchen Chang (University of New Brunswick, Canada) and Rajamani Doraiswami (University of New Brunswick, Canada) 6056 V3-1313

**3. Characteristics of the Measured Current Harmonics Produced by Clusters of Variable Speed Drives**
Éloi Ngandui (Université du Québec à Trois-Rivières, Canada) 6070 V3-1347

**4. Sensorless Control of Permanent Magnet Synchronous Motor Using Extended Kalman Filter**
Albert Qiu (Queen's University), Bin Wu (Ryerson University, Canada) and Hassan Kojori (Honeywell Ltd., Canada) 6150 V3-1557

**5. Modeling Techniques of Resonant Converters: Merits and Demerits**
Mohamed Z. Youssef ( Queen's University, Canada) and Praveen K. Jain ( Queen's University, Canada) 5227 V1-0241

**Break : 15:50 – 16:10**

**6. A ZVS Current-Fed AC-DC PWM Full Bridge Converter**
Gerry Moschopoulos (University of Western Ontario, Canada) and Wannian Huang (University of Western Ontario, Canada) 5691 V1-0579

**7. A Very Fast Direct Torque Control for Permanent Magnet Synchronous Motors Start up**
Hassan Ghasemi (University of Waterloo, Canada), Sadegh Vaez-Zadeh (University of Tehran, Iran) 6263 V3-1673

**8. A Comparative Study of Simple Ac-Dc PWM Full-Bridge Current-Fed and Voltage-Fed Converters**
Gerry Moschopoulos (University of Western Ontario, Canada) and Jayesh Shah (University of Western Ontario, Canada) 5692 V1-0583

**9. Space Vector Modulation for Neutral Point Clamped Multilevel Inverter with Even Order Harmonic Elimination**
David Feng (Ryerson University, Canada), Bin Wu (Ryerson University, Canada), Sanmin Wei (Ryerson University, Canada) and David Xu (Ryerson University, Canada) 6118 V3-1471

## Session (Oral) TA7: Embedded Systems

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. G. Khan, Ryerson University** **Room: Oneida**

**1. Hardware-Software Co-Synthesis of Bus Architecture Embedded Devices**
Jacob Levman,(Ryerson University, Canada), Gul Khan, (Ryerson University, Canada) and Javad Alirezaie (Ryerson University, Canada) 4552 V1-0069

**2. A New Approach to Test Cases Generation based on Real-Time Process Algebra (RTPA)**
Yizheng Yao (University of Calgary, Canada) and Yingxu Wang (University of Calgary, Canada) 6134 V3-1515

**3. On the Extension of SystemC by SystemVerilog Assertions**
Ali Habibi (Concordia University, Canada) and S. Tahar (Concordia University, Canada) 6549 V4-1869

**4. Plurix, a Distributed Operating System extending the Single System Image Concept**
Ralph Goeckelmann and M. Schoettner (University of Ulm, Germany), S. Frenz and P. Schulthess (University of Ulm, Germany) 6669 V4-1985

**5. A New Graph Structure for Hardware-Software Partitioning of Heterogeneous Systems**
Gul Khan (Ryerson University, Canada) and Matthew Jin (Ryerson University, Canada) 5222 V1-0229

**Break : 15:50 – 16:10**

**6. Implementing Task Scheduling and Event Handling in RTOS+**
Cyprian F. Ngolah (University of Calgary, Canada), Yingxu Wang (University of Calgary, Canada) and Xinming Tan (University of Calgary, Canada) 6136 V3-1523

**7. An Implementation of the Hardware Partition in A Software/Hardware Co-Designed Java Virtual Machine**
Hejun Ma (University of New Brunswick, Canada), Ken Kent (University of New Brunswick, Canada) and David Luke (University of New Brunswick, Canada) 6758 V4-2057

**8. Formal Description of a Generic Graph Model with RTPA**
Aderemi Adewumi (University of Lagos, Nigeria) and Yingxu Wang (University of Calgary, Canada) 6140 V3-1537

**9. 11-Bit Floating-Point Pipelined Analog to Digital Converter in 0.18µm CMOS**
Mehdi Sadaghdar (Simon Fraser University, Canada), Kris Iniewski (Simon Fraser University, Canada) and Marek Syrzycki (Simon Fraser University, Canada) 6128 V3-1503

**10. Design of a Flexible Cryptographic Hardware Module**
Andrew W. H. House (Memorial University of Newfoundland, Canada) and Howard M. Heys (Memorial University of Newfoundland, Canada) 5715 V1-0603

## Session (Oral) TA8: Fuzzy Systems and Neural Networks

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Mr. B. Di-Stefano, Nuptek Systems** **Room: Tuscarora**

**1. Application of Fuzzy Logic for Improved Software Project Management Estimations**
Imran Siwani (University of Western Ontario, Canada) and Miriam Capretz (University of Western Ontario, Canada) 6573 V4-1897

**2. Scheduling of DSP Data Flow Graphs with Processing Times Characterized by Fuzzy Sets**
Awni Itradat (Concordia University, Canada), M.O. Ahmad (Concordia University, Canada) and Ali Shatnawi (Jordan University of Science and Technology, Jordan) 6028 V3-1245

**3. Fuzzy Logic Control in RPR Network**
Xin Zhang (Ryerson University, Canada), Hossein Ghandehari and Gary Yip (Ryerson University, Canada), Ngok-Wah Ma and Kaamran Raahemifar (Ryerson University, Canada) 6564 V4-1893

**4. Reference Model Supervisory Loop for Neural Network Based Adaptive Control of a Flexible Joint with Hard Nonlinearities**
Hicham Chaoui (Université du Québec en Outaouais, Canada), Pierre Sicard (Université du Québec à Trois-Rivières, Canada) and Ahmed Lakhsasi (Université du Québec en Outaouais, Canada) 6720 V4-2029

**5. Representing Generalized Fuzzy Automata in Recurrent Neural Networks**
Mansoor Doostfatemeh (University of Guelph, Canada) and Stefan C. Kremer (University of Guelph, Canada) 6579 V4-1901

### Break : 15:50 – 16:10

**6. Dynamic Process Control for In-Situ Bioremediation System**
Zhiying Hu (University of Regina, Canada), Christine W. Chan (University of Regina, Canada) and Gordon H. Huang (University of Regina, Canada) 6081 V3-1385

**7.On Classification of Simulated Sensory Deficiency**
Aimee L. Betker (University of Manitoba, Canada), Z. Moussavi and T. Szturm (University of Manitoba, Canada) 6014 V2-1211

**8. Performance Evaluation of a Fuzzy Based Jitter Management Algorithm**
Akbar Ghaffar Pour Rahbar (University of Ottawa, Canada), Oliver Yang (University of Ottawa, Canada) and Frank Zhang (University of Ottawa, Canada) 7027 V4-2351

**9. Simulation of Two-Rate Adaptive Neural Network and Fuzzy Logic Hybrid Control for Stochastic Model of an Experimental Aircraft**
Igor Astrov (Tallinn University of Technology, Estonia), Andrus Pedai (Tallinn University of Technology, Estonia) and Ennu Rustern (Tallinn University of Technology, Estonia) 5001 V1-0125

**10. Design of QFT Robust Controller for Fuzzy Systems**
Mehdi Narimani (Isfahan University of Technology, Iran) and Farid Sheikholeslam (Isfahan University of Technology, Iran) 6545 V4-1857

## Session (Oral) TA9: FPGA and System on Chip

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR:** **Dr. B. Cockburn, University of Alberta** **Room: Cree**

**1. An Improved FPGA Implementation of a Hyperelliptic Cryptosystem Coprocessor**
Grace Elias (University of Ottawa, Canada), Lo Sing Cheng (University of Ottawa, Canada), Ali Miri (University of Ottawa, Canada) and Tet Hin Yeap (University of Ottawa, Canada) 5832 V2-0773

**2. Modeling the Interconnects of Xilinx Virtex FPGAs and Derivation of their Test Configurations**
Christian Giasson (University of Alberta, Canada) and Xiaoling Sun (University of Alberta, Canada) 5857 V2-0831

**3. A Dual Round-Robin Arbiter for Split-Transaction Buses in System-on-Chip Implementations**
James Reed (Queen's University, Canada) and Naraig Manjikian (Queen's University, Canada) 5858 V2-0835

**4. Hardware Implementation of the Optimized Transform and Quantization Blocks of H.264**
Roman Kordasiewicz (McMaster University, Canada) and Shahram Shirani (McMaster University, Canada) 5895 V2-0943

**5. A Reconfigurable Digital IC Tester Implemented using the ARM Integrator Rapid Prototyping System**
Fang Pang (University of Alberta, Canada), Tyler Brandon (University of Alberta, Canada), Bruce Cockburn (University of Alberta, Canada) and Michael Hume (University of Alberta, Canada) 6599 V4-1931

**Break : 15:50 – 16:10**

**6. Low-Level Run-Time Reconfiguration of FPGAs for Dynamic Environments**
Rami Abielmona (University of Ottawa, Canada), Voicu Groza (University of Ottawa, Canada), Nizar Sakr (University of Ottawa, Canada) and Jonathan Ho (University of Ottawa, Canada) 6857 V4-2135

**7. Embedded System Partitioning with Flexible Granularity by using a Variant of Tabu Search**
Usman Ahmed (Ryerson University, Canada) and Gul N. Khan (Ryerson University, Canada) 6805 V4-2073

**8. Constructive and Local Search Heuristic Techniques for FPGA Placement**
Xiaojun Bao (University of Guelph, Canada) and Shawki Areibi (University of Guelph, Canada) 5657 V1-0505

**9. Enhanced Technique for Built-In-Self-Test of Sequential Logic**
Benedict Chien (Queen's University, Canada) and Stan Simmons (Queen's University, Canada) 6692 V4-2009

**10. Thermo-mechanical Stress Analysis of VLSI Devices by Partially Coupled Finite Element Method**
Mohammed Bougataya (Université du Québec en Outaouais, Canada), Ahmed Lakhsasi (Université du Québec en Outaouais, Canada), Yvon Savaria (École Polytechnique de Montréal, Canada), Danniel Massicotte (Université du Québec à Trois-Rivières, Canada) 5658 V1-0509

## Special Session (Oral) TA10: Radio Resource Mgmt. in Next Generation Wireless Networks

**Tuesday, May 04, 2004** **TIME: 14:10 – 17:30**

**CHAIR: Dr. A. Anpalagan** **Room: Auditorium**

**1. On the Capacity of Cellular Fixed Relay Networks**
Hakan Bolukbasi (Carleton University, Canada), Halim Yanikomeroglu (Carleton University, Canada), David D. Falconer (Carleton University, Canada) and Shalini Periyalwar (Nortel Networks, Canada) 6914 V4-2217

**2. The Capacity of Multi-Antenna Array System in Microcell and Picocell Wireless Environment**
Apichart Intarapanich (University of Calgary, Canada), Robert J. Davies (University of Calgary, Canada), Abu B. Sesay (University of Calgary, Canada) and Padam Lal Kafle (University of Calgary, Canada) 5839 V2-0797

**3. Scalable Video Transmission over Orthogonal Frequency Division Multiplexing Wireless Channels**
George Partasides (SUNY at Buffalo, USA) and Lisimachos P. Kondi (SUNY at Buffalo, USA) 5803 V2-0693

**4. Fast Packet Scheduling Assuring Fairness and Quality of Service in HSDPA**
Ghassane Aniba (University of Quebec, Canada) and Sonia Aissa (University of Quebec, Canada) 6934 V4-2243

**5. Seamless QoS - Aware Fair Handoff in Multimedia Wireless Networks width Optimized Revenue**
Nidal Nasser (Queen's University, Canada) and Hossam Hassanein (Queens University, Canada) 6008 V2-1195

**Break : 15:50 – 16:10**

**6. On 4G and Beyond Multi-hop Wireless Networks**
Ahmed M. Safwat (Queen's University, Canada) 6967 V4-2277

**7.A Study of DiffServ based QoS Issues in Next Generation Mobile Networks**
Thimma Ganesh Babu (Ryerson University), Jerry Hayes (Concordia University) and Alagan Anpalagan (Ryerson University) 7029 V4-2359

**8. Integrated Solutions for Wireless MPLS and Mobile IP: Current Status and Future Directions**
Abd-Elhamid Taha (Queen's University, Canada), Hossam Hassanein (Queen's University, Canada), Hussein Mouftah (University of Ottawa, Canada) 6114 V3-1463

# IEEE

# CCECE 2004 CCGÉI

**Wednesday, May 5.**

# Schedule of Events

Session Code:

Day Monday, Tuesday, Wednesday.
Type Oral – Morning, Oral Afternoon, Poster – afternoon.
Session Number.
Presentation Number.

Ex. WM03.06 = Wednesday Morning Session 3 Presentation 6.

## Session (Oral) WM1: Space Time Coding

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. T. Kirubarajan, McMaster University** **Room: Ontario**

**1. A Differential Space-Time Code Receiver using the EM-Algorithm**
Michael L.B. Riediger (Simon Fraser University, Canada) and Paul K.M. Ho (Simon Fraser University, Canada) 5165 V1-0185

**2. Kalman Filtering for Channel Estimation in Space-Time Coded Systems**
Haizhen Jin (McGill University, Canada) and Harry Leib (McGill University, Canada) 5243 V1-0253

**3. Space-Time Coding and Signal Space Diversity in the Presence of Channel Estimation Errors**
Tolga Kurt (University of Ottawa, Canada) and Hakan Delic (Bogazici University, Turkey) 5272 V1-0273

**4. Unitary Space-Time Codes from Group Codes: Permutation Codes Variant II**
Terasan Niyomsataya (University of Ottawa, Canada), Ali Miri (University of Ottawa, Canada) and Monica Nevins (University of Ottawa, Canada) 5712 V1-0599

**5. Tracking Time-Selective Fading Channels for Space-Time Block Coding in Impulsive Noise**
Ziauddin M. Kamran (McMaster University, Canada), T. Kirubarajan and Alex B. Gershman (McMaster University, Canada) 5800 V2-0685

**6. Receive Antenna Selection for Space-Time Block Codes**
Xiang Nian Zeng (Concordia University, Canada) and Ali Ghrayeb (Concordia University, Canada) 6075 V3-1361

### Break : 10:10 – 10:30

**7. Capacity of PPM Ultra-Wideband Communications with Inter Pulse Interference**
Reza Pasand (University of Calgary, Canada), John Nielsen (University of Calgary, Canada), Abu B. Sesay (University of Calgary, Canada) 7028 V4-2355

**8. Single-Carrier Concatenated Space-Time Block Coded Transmissions over Selective -Fading Channels**
Tuan Tran(University of Calgary, Canada), Tung X. Lai (University of Calgary, Canada) and Abu B. Sesay (University of Calgary, Canada) 6159 V3-1577

**9. Improved Space-Time Trellis Codes with Three and Four Transmit Antennas**
David Bernier (Royal Military College, Canada) and Francois Chan (Royal Military College, Canada) 6816 V4-2089

**10. Iterative Decoding Algorithm of Lattices**
Mohammad Reza Rafsanjani Sadeghi (Carleton University, Canada), Amir H. Banihashemi (Carleton University, Canada) and Daniel Panario (Carleton University, Canada) 6094 V3-1417

**11. Computer Design of Super-Orthogonal Space-Time Trellis Codes**
Brady Laska (Royal Military College, Canada), Dustin Dunwell (Royal Military College, Canada), Francois Chan (Royal Military College, Canada) and Hamid Jafarkhani (University of California at Irvine, USA) 6888 V4-2179

## Session (Oral) WM2: CDMA Systems / Advanced Coding

**Wednesday, May 5, 2004** **TIME: 8:10 -12:10**

**CHAIR:** **Dr. A. Mirbagheri, University of Toronto** **Room: Chippawa**

**1. Reverse-Link Power Allocation in Two-Hop Multimedia CDMA Networks**
Dave Walsh and Halim Yanikomeroglu (Carleton University, Canada) 6053 V3-1305

**2. Performance of Multicode DS/CDMA with Noncoherent M-ary Orthogonal Modulation in the Presence of Timing Errors**
Cyril-Daniel Iskander (Florida Atlantic University, USA) 6092 V3-1409

**3. An Improved Widely Linear Receiver for Cyclostationary CDMA Systems with OQPSK Modulation**
Arash Mirbagheri (University of Toronto, Canada), Konstantinos N. Plataniotis and Subbarayan Pasupathy (University of Toronto, Canada) 6467 V3-1801

**4. BER Performance of STBC over Frequency Selective Fading Channels in the Downlink WCDMA System**
Tung X. Lai and Abu B. Sesay (University of Calgary, Canada) 6173 V3-1613

**5. An Iterative MMSE-Decision Feedback Multiuser Detector for Space-Time Coded Multicarrier CDMA System**
Padam L. Kafle (TRLabs, Calgary, Canada), Abu B. Sesay and J. McRory (TRLabs, Calgary, Canada) 6968 V4-2281

**6. A Linear Decoder for Vector Quantization over a CDMA Channel**
Ha H. Nguyen (University of Saskatchewan, Canada) 6852 V4-2125

### Break : 10:10 – 10:30

**7. Codesign Implementation of a 3G Base Station Receiver**
Sébastien Jomphe and Jean Belzile (Ecole de Technologie Supérieure, Canada), Sofiène Affes (Institut national de la recherche scientifique, Canada) and Karim Cheikhrouhou (Institut national de la recherche scientifique, Canada) 6007 V2-1191

**8. Signal Mappings of 8-ARY Constellations for BICM-ID Systems over a Rayleigh Fading Channel**
Nghi Tran (University of Saskatchewan, Canada) and Ha Nguyen (University of Saskatchewan, Canada) 6471 V3-1809

**9. A Novel Context Modeling Scheme for Motion Vectors Context-Based Arithmetic Coding**
Mahmoud Ghandi (Sharif University of Technology, Iran), Mohammad Mahdi Ghandi (University of Essex, UK) and Mohammad Bagher Shamsollahi (Sharif University of Technology, Iran) 6713 V4-2021

**10. A Union Bound Based Evaluation Technique for Convolutionally and Turbo Coded Communication Systems**
Bo Xu (McGill University, Canada) and Jan Bajcsy (McGill University, Canada) 6970 V4-2287

**11. A Multi-wavelet Packet Modulation in Wireless Communications**
Mingli You (Dalhousie University, Canada) and Jacek Ilow (Dalhousie University, Canada) 7302 V4-2367

## Session (Oral) WM3: Internetworking and Protocols

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. Ganesh Babu, Ryerson University** **Room: Canadiana**

**1. SDL Modeled Hybrid Error Control Scheme for Reliable Multicast over Internet**
Bo Rong (Universite du Quebec, Canada), Alain Servais and Maria Bennani ( Universite du Quebec, Canada), Ahmed Elhakeem (Concordia University, Canada) and Michel Kadoch (Universite du Quebec, Canada) 5511 V1-0409

**2. An IP Traceback Mechanism for Reflective DoS Attacks**
Bao-Tung Wang (Columbia University) and Henning Sehulzrinne (Columbia University) 5885 V2-0901

**3. An Approach to Solving a Multicasting Scalability Issue in MPLS Networks Using State Encoding**
Omar Banimelhem (Concordia University, Canada), J. William Atwood (Concordia University, Canada) and Anjali Agarwal (Concordia University, Canada) 6583 V4-1911

**4. Multicasting with Delay and Delay Variation Constraints Using Genetic Algorithm**
Moussa Hamdan and Mohamed El-Hawary (Dalhousie University, Canada) 7301 V4-2363

**5. Agent -Based Resource Management in Hybrid Wireless Networks**
Rajeev Babbar (University of Calgary, Canada), Abraham O. Fapojuwo (University of Calgary, Canada) and Behrouz H. Far (University of Calgary, Canada) 6050 V3-1297

**6. Enhanced Pollinng Scheme with IEEE 802.11a WLAN**
Taekon Kim (Samsung Elctronics Co.), Chang Yeul and Chil-Youl Ynag (Samsung Elctronics Co.) 5205 V1-0217

### Break : 10:10 – 10:30

**7. Session-based Service Discovery in Peer-to-Peer Communications**
Ramiro Liscano (University of Ottawa, Canada), Allan Jost and Anand Dersingh (Dalhousie University, Canada) and Hao Hu (Intel China Ltd., China) 6119 V3-1477

**8. Average Degradation Degree Fair Adaptation Algorithm in Wireless Network with Mobile Hosts**
Floriano De Rango (University of Calabria, Italy), G. Aloi (University of Calabria, Italy) and S. Marano (University of Calabria, Italy) 6974 V4-2303

**9. A Proposed Protocol for Internet Key Exchange (IKE)**
Hossein Haddad (Isfahan University of Technology, Iran), Mehdi Berenjkoub (Isfahan University of Technology, Iran) and Saeed Gazor (Queens University, Canada) 6706 V4-2017

**10. An Integrated Scheduling and Buffer Management Scheme for Packet-Switched Routers**
Ren-Jie Pi Beijing (Beijing University of Posts and Telecom., China), Junde Song and Meina Song (Beijing University of Posts and Telecom., China) 5646 V1-0489

**11. Multipath Traffic Distribution in MPLS Network**
Zenghua Zhao (Tianjin University, China) and Yantai Shu (Tianjin University, China) 5785 V2-0661

## Session (Oral) WM4: Biomedical Image Analysis

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. A. Alder, University of Ottawa** **Room: Hennipen South**

**1. Evaluation of Hierarchical Elastic Medical Image Registration Method**
Xiaoyan Xu (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6047 V3-1289

**2. Images Can be Regenerated from Quantized Biometric Match Score Data**
Andy Adler (University of Ottawa, Canada) 5599 V1-0469

**3. Lossy Compression of DNA Microarray Images**
Naser Faramarzpour (McMaster University, Canada), Shahram Shirani (McMaster University, Canada) and M. Jamal Deen (McMaster University, Canada) 5820 V2-0735

**4. Compression of 3D Facial Data**
In-Su Park (McMaster University, Canada), Shahram Shirani (McMaster University, Canada) and David W. Capson (McMaster University, Canada) 5992 V2-1151

**5. Neural Network Texture Segmentation in Equine Leg Ultrasound images**
Qi Huang (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6040 V3-1269

**6. Gait Analysis and Recognition using Angular Transforms**
Nikolaos V. Boulgouris (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 6057 V3-1317

**Break : 10:10 – 10:30**

**7. A Fuzzy Classifier Approach to Assessing the Progression of Adolescent Idiopathic Scoliosis from Radiographic Indicators**
Peter O. Ajemba (University of Alberta, Canada), Lino Ramirez (University of Alberta, Canada), Nelson G. Durdle (University of Alberta, Canada), Doug L. Hill (Glenrose Rehabilitation Hospital, Canada) and V. J. Raso (Glenrose Rehabilitation Hospital, Canada) 6115 V3-1467

**8. Semi Real-time algorithm for Posture Estimation of the Human Face using a 3-D Reference Picture**
Daisuke Takahashi (Kanto Gakuin University, Japan) and Noriyoshi Okamoto (Kanto Gakuin University, Japan) 5891 V2-0927

**9. ECG Signal Compression by Using Multiquadric Interpolation**
Pond Boonyaves (Chulalongkorn University, Thailand), Porntip Paisalsing (Chulalongkorn University, Thailand), Pian Totarong (National Institule of Metrodoloy, Thailand) and Somchai Jitapunkul (Chulalongkorn University, Thailand) 5896 V2-0947

**10. Modeling Human Body Effects for Indoor Radio Channel using UTD**
Mohamad Ghaddar (University of Quebec, Canada), Larbi Talbi ( University of Quebec - Outaouais, Canada), Tayeb A. Denidni (University of Quebec, Canada), Alain Charbonneau (Université du Québec en Outaouais, Canada) 6074 V3-1357

## Session (Oral) WM5: RF Circuits

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. A. B. Kouki, Ecole de Technologie Superieure** **Room: Auditorium**

**1. Design Issues of Direct Conversion Radio Frequency Receivers in SiGe Technology**
Roghoyeh Salmeh (University of Calgary, Canada), Brent J. Maundy and Ronald H. Johnston (University of Calgary, Canada) 4315 V1-0061

**2. Design and Realization of a RF Transceiver for Marine Identification Systems**
Mohamad El-Asmar (Ecole de Technologie Superieure, Canada) and Ammar B. Kouki (Ecole de Technologie Supérieure, Canada) 5664 V1-0535

**3. Physics-Based Analysis of Variable RF MEMs Capacitors**
Kousseil Ben Ahmed (Ecole de technologie supérieure, Canada), Ammar B. Kouki (Ecole de Technologie Supérieure, Canada) and A. Khebir (Ecole de Technologie Supérieure, Canada) 5823 V2-0739

**4. Low-Voltage, Low-Power and Low Phase Noise 2.4 GHz VCO for Medical Wireless Telemetry**
Ahmed Fakhr (McMaster University, Canada), M. Jamal Deen and Hubert deBruin (McMaster University, Canada) 6058 V3-1321

**5. A Low- power 5 Mb/s turbo Decoder for Third -Generation Wireless Terminals**
Ibrahim Al-Mohandes and Mohamed Elmasry (University of Waterloo, Canada) 7482 V4-2387

**6. A Bipolar Voltage Variable Attenuator for Radio Frequency Applications**
You Zheng and Carlos E. Saavedra (Queen's University, Canada) 4813 V1-0095

### Break : 10:10 – 10:30

**7. Low-Power and High-Speed Digital Correlator for Radio Astronomy**
Christoph Spuhler (University of Rochester, USA), Yi Chang (University of Rochester,USA), Martin Margala (University of Rochester, USA), Brent Carlson (Herzberg Institute of Astrophysics, Canada) and Peter Dewdney (Herzberg Institute of Astrophysics, Canada) 6191 V3-1633

**8. An Adaptive Algorithm for Efficient Electromagnetic Field Calculations**
Mina Ayatollahi (University of Waterloo, Canada) and Safieddin Safavi-Naeini (University of Waterloo, Canada) 6947 V4-2251

**9. Low-Voltage and Low-Power 1.9GHz Body-Input Dowconversion Mixer**
Nabeel Jafferali (McMaster University, Canada) and M. Jamal Deen (McMaster University, Canada) 6093 V3-1413

**10. A Clock Frequency Doubler using a Passive Integrator and Emitter-Coupled Comparator Circuit**
Carlos E. Saavedra and Yang Zhang (Queen's University, Canada) 5042 V1-0137

**11. A Flexible Digital Platform for Real-Time Control of RF Components with Application to MIMO Channel Emulation**
Pierre-Paul Carpentier (École de technologie supérieure, Canada), Ammar Kouki and Claude Thibeault (Ecole de Technologie Supérieure, Canada) 5793 V2-0665

## Session (Oral) WM6: Signal Processing

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. L. Guan, Ryerson University** **Room: Hennipen North**

**1. A New Rate Adaptation Framework for MPEG-4 FGS Video over IP**
Colin Huang (Ryerson University, Canada) and Ling Guan (Ryerson University, Canada) 6154 V3-1563

**2. Choice of Threshold of the Huber-Markov Prior in MAP Based Video Resolution Enhancement**
Hu He (State University of New York at Buffalo, USA) and Lisimachos P. Kondi (State University of New York at Buffalo, USA) 5841 V2-0801

**3. Algorithms for Estimating Information Distance with Application to Bioinformatics and Linguistics**
Alexei Kaltchenko (Wilfrid Laurier University, Canada) 6949 V4-2255

**4. FFT Filter Bank based Majority and Summation CFAR Detectors: A Comparative Study**
Sichun Wang and Robert Inkol ((Defence Research and Development Canada) 5944 V2-1039

**5. Probability Distribution of Speech Signal Envelope**
Saeed Gazor (Queens University) and Reza Rashidi Far (Queen's University) 6964 V4-2267

**6. A Relationship between the Structures of the Radix-2 DIT FHT and Complex-Valued FFT Algorithms**
Saad Bouguezel (Concordia University, Canada), M.O. Ahmad (Concordia University, Canada) and M.N.S Swamy (Concordia University, Canada) 5975 V2-1111

### Break : 10:10 – 10:30

**7. Multifractal Characterization for Classification of Network Traffic**
Robert L. Barry (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6112 V3-1453

**8. A Comparative Study of FFT-Summation and Polyphase-FFT CFAR Detectors**
Robert Inkol and Sichun Wang (Defence Research and Development Canada) 6000 V2-1175

**9. A Switching Constant False Alarm Rate Technique for High Frequency Surface Wave Radar**
Xiaoli Lu (University of Victoria, Canada), Jian Wang (Raytheon Canada Ltd., Canada), Reza Dizaji (Raytheon Canada Ltd., Canada), Zhen Ding (Raytheon Canada Ltd., Canada) and A. M. Ponsford (Raytheon Canada Ltd., Canada) 6811 V4-2081

**10. Analysis of Clutter Distribution in Bistatic High Frequency Surface Wave Radar**
Jian Wang (Raytheon Canada Ltd., Canada), Reza Dizaji (Raytheon Canada Ltd., Canada) and A. M. Ponsford (Raytheon Canada Ltd., Canada) 6052 V3-1301

**11. A Novel Parameter Update Procedure based on Minimizing the Empirical Probability of Error**
Haosheng Zhou (University of Winnipeg, Canada) 5112 V1-0157

## Session (Oral) WM7: Information and Intelligent Systems

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. M. Maheswaran, McGill University** **Room: Haida**

**1. Evaluation of Request Distribution Schemes for Web-Server Clusters**
Ramandeep Bhinder (TRLabs, Canada), Muthucumaru Maheswaran (McGill University, Canada) and Jeff Diamond (TRLabs, Canada) 6171 V3-1609

**2. Knowledge Representation and Processing in Intelligent Software Measurement System (ISMS)**
Tong Chen (University of Calgary, Canada) and Behrouz Homayoun Far (University of Calgary, Canada) 5578 V1-0443

**3. Decision Support and -Automation for Malfunction Handling and Optimization in a Feedback Production Control System for Complex Production Facilities**
Clemens Martin (University of Ontario Institute of Technology, Canada) 6157 V3-1571

**4. Information Estimations of Complexity Structures**
Alexander Shaydurov (McGill University, Canada) 5345 V1-0353

**5. An Application of Decision Support to Network Intrusion Detection**
Hongyu Yang (Tianjin University, China), Lixia Xie (University of China, China) and Jizhou Sun (Tianjin University, China) 6299 V3-1703

**6. Ontology-Based Intelligent Information Retrieval System**
Wenjie Li (Tianjin University, China), Zhiyong Feng (Tianjin University, China), Yong Li (Tianjin University, China) and Zhoujun Xu (Tianjin University, China) 5441 V1-0373

### Break : 10:10 – 10:30

**7. Specification of Design Patterns using Real-Time Process Algebra (RTPA)**
Vu Nguyen-Cong (Nong Lam University, Vietnam) and Yingxu Wang (University of Calgary, Canada) 6142 V3-1545

**8. Application de L' Adressage Physique Rapide A L' Architecture de Visualisation dans les Systemes A Microprocesseur**
Mountassar Maamoun (Blida University) and Boualem Laichi (Departement dInformatique, USTHB) 6662 V4-1981

**9. Design of Dual Port RAM for Parallel Volume Rendering System** **V1-0177**
Xiaotu Li (Tianjin University, China), Jizhou Sun and Weifang Nie (Tianjin University, China) and Yurong Wang (Capital University of Economics and Business, China) 5155

**10. Considerations for the Development of Large Scale Mobile Network Management System**
Man Yi and Shang Jing (Beijing University of Posts and Telecommunications, China), Song Junde and Song Mei (Beijing University of Posts and Telecommunications, China) 5984 V2-1139

## Session (Oral) WM8: Power Systems Stability and Renewable Energy Systems

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. B. Wu, Ryerson University** **Room: Cree**

**1. Damping Power System Oscillations Using a Genetic Algorithm Based Unified Power Flow Controller**
Sherif O. Faried and Amr A. Eldamaty (University of Saskatchewan, Canada) 4349 V1-0065

**2. The Effect of Capacity Gaming on the Cost of System Reliability**
Donald McGillis and Ian Fichtenbaum (McGill University, Canada), Markian Michailuk and Francisco Galiana (McGill University, Canada) 5889 V2-0917

**3. A Doubly-Fed Induction Machine and Energy Storage System for Wind Power Generation**
Chad Abbey and Geza Joos (McGill University, Canada) 5954 V2-1059

**4. Islanding Protection Evaluation of Inverter-based Grid-connected Hybrid Renewable Energy System**
Mamadou Lamine Doumbia (Université de Quebec à Trois-Rivieres, Canada), Kodjo Agbossou and Tapan K. Bose (Université de Quebec à Trois-Rivieres, Canada) 5966 V2-1081

**5. Parameterize Pre-Compensator Design for Static Synchronous Series Compensator (SSSC)**
Jafar Ghaisari (Isfahan University of Technology, Iran) and Alireza R. Bakhshai (Queen's University, Canada) 6174 V3-1617

**6. Investigation of Self-Excited Induction Generators for Wind Turbine Applications**
Mohamed Orabi (Kyushu University, Japan), Mohamed Z. Youssef (Queen's University, Canada) and P. K. Jain (Queen's University, Canada) 6544 V4-1853

### Break : 10:10 – 10:30

**7. Energy Optimization in Rapid Flow Variation Systems**
Kaushik Bhattacharjee (Senior Member, IEEE), Alok Goyal (TERI), Suman Mazumdar (Flaktt India), Manish Kumar (IIT Kharagpur, India) 6521 V4-1835

**8. Domain of Stability of AC/DC Power Systems**
Nilkamal Fernandopulle (Independent Electric Market Operator) and Robert T.H. Alden (Bob Alden Technologies, Canada) 5546 V1-0433

**9. A Neuro-optimal Control Power System Stabilizer: A Comparative Study**
Mohamed Z. Youssef (Queen's University, Canada), Praveen K. Jain (Queen's University, Canada), Elsayed Abdelaleem Mohamed (Ain Shams University, Egypt) and Mohamed Orabi (Kyushu University, Japan) 4284 V1-0055

**10. Relationship of Chaos and Small Signal Stability Region**
Jia Hongjie (Tianjin University, China), Yu Yixin (Tianjin University, China), Zhang Pei (EPRI, USA) Yu Xiaodan (Tianjin University, China), Huang Chunhua (Tianjin University, China) 4627 V1-0073

**11. Effect of the Fuel Cell on Distribution System Stability**
Francisco Jurado and Manuel Valverde (University of Jaen), Jose Carpio (U. Nacional de Education) 4263 V1-0047

## Session (Oral) WM9: Control Systems I

**Wednesday, May 5, 2004 TIME: 8:10 – 12:10**

**CHAIR: T.B.A. Room: Tuscarora**

**1. Model Predictive Control for Bilateral Teleoperation Systems with Time Delays**
Jie Sheng (University of Illinois at Urbana-Champaign, USA) and Mark W. Spong (University of Illinois at Urbana-Champaign, USA) 6555 V4-1877

**2. On Identification of Non-linear Two-Channel Hammerstein Systems**
Mirek Pawlak (University of Manitoba, Canada) and Ruixiang Song (University of Manitoba, Canada) 5282 V1-0289

**3. A new Z-domain Continued Fraction Expansion and its use in the Generation of Stable Transfer Functions**
Venkatanarayana Ramachandran (Concordia University, Canada), Ling Luo (Concordia University,Canada ) and C.S. Gargour (University of Quebec, Canada) 5300 V1-0307

**4. Effects of Control Systems Time Delay on The Performance of Direct Harmonics Elimination**
Jenny Zheng Zhou (Manitoba HVDC Research Centre, Canada), Athula Rajapakse and Aniruddha M. Gole (University of Manitoba, Canada) 5725 V1-0609

**5. Performance of a Non Linear Controller Based IPMSM Drive**
Jason Lau (Lakehead University, Canada) and Mohammad N. Uddin (Lakehead University, Canada) 5828 V2-0755

**6. Control Schemes for Stabilization of Force-Reflecting Teleoperators with Communication Delay**
Ilia G. Polushin (Lakehead University, Canada), Abdelhamid Tayebi (Lakehead University, Canada) and Horacio J. Marquez (University of Alberta, Canada) 6874 V4-2163

### Break : 10:10 – 10:30

**7. An Algorithm for Locating Microseismic Events**
Brian L. F. Daku (University of Saskatchewan, Canada), J. Eric Salt (University of Saskatchewan, Canada), Li Sha (University of Saskatchewan, Canada) 6978 V4-2311

**8. Using Model Predictive Control for Real-Time Control over the Internet** V2-0827
Samer Mansour and Bill Robertson (Dalhousie University, Canada), Bill Phillips (Dalhousie University, Canada) and Guy Kember (Dalhousie University, Canada) 5855

**9. An Integrated Robotic Laser Range Sensing System for Automatic Mapping of Wide Workspaces**
Phillip Curtis (University of Ottawa, Canada) and Pierre Payeur (University of Ottawa, Canada) 5983 V2-1135

**10. An Architectural Framework for a Distributed Process Control Information System**
Varanon Uraikul (University of Regina, Canada), Christine Chan (University of Regina, Canada) and Paitoon Tontiwachwuthikul (University of Regina, Canada) 6079 V3-1375

**11. Mobile Robot Position Determination Using Data from Gyro and Odometry**
Farouk Azizi (Purdue University Calumet, USA) and Nasser Houshangi (Purdue University Calumet, USA) 5814 V2-0719

## Session (Oral) WM10: Electric Machines and Motor Drives

**Wednesday, May 5, 2004** **TIME: 8:10 – 12:10**

**CHAIR:** **Dr. A. Rajapakse, University of Manitoba** **Room: Oneida**

**1. Development and Interfacing of a Generic Switched Reluctance Motor Model for an EMTP**
Athula D. Rajapakse (University of Manitoba, Canada), Aniruddha M. Gole (University of Manitoba, Canada) and Dharshana Muthumani (Manitoba HVDC Research Center, Canada) 5225 V1-0237

**2. Experimental Methods for Measuring the q-Axis Saturation Characteristics of Synchronous Machines**
Narayan C. Kar (University of Windsor, Canada) and Ahmed M. El-Serafi (University of Saskatchewan, Canada) 5519 V1-0425

**3. Performance Analysis of a Reluctance Synchronous Motor Under Abnormal Operating Condition**
Prabhakar Neti (University of Victoria, Canada) and Subhasis Nandi (University of Victoria, Canada) 5694 V1-0587

**4. Power Transformer Critical Diagnostics for Reliability and Life Extension**
Muhammad Arshad (American University of Sharjah) and Syed M. Islam (Curtin University of Technology, Australia) 5734 V2-0625

**5. Saturation in Synchronous Generators During Unbalanced Faults**
Kwok-Wai Louie (Manitoba HVDC Research Centre, Canada) and Jose R. Marti (University of British Columbia, Canada) 5853 V2-0819

**6. Finite Element Analysis of Shaft Eddy Currents in High Speed Asynchronous Machines**
Erich Schmidt (Vienna University of Technology, Austria) 5925 V2-1009

### Break : 10:10 – 10:30

**7. Alternative Network Element Sets**
J. J. Narraway (University of New Brunswick, Canada) 9001 V4-2405

**8. Flux Estimation of Induction Machines with the Linear Parameter-Varying System Identification Method**
Juntao Pan (University of Calgary, Canada), David Westwick and Ed Nowicki (University of Calgary, Canada) 6910 V4-2213

**9. Impedance Characterization of a Six-Phase Synchronous Generator-Rectifier System Using Average-Value Model**
Juri Jatskevich and Tarek Aboul-Seoud (University of British Columbia, Canada) 6929 V4-2231

**10. Performance Analysis of a 4-Switch, 3-Phase Inverter Based Cost Effective IPM Motor Drives**
Mohammad Nasir Uddin (Lakehead University, Canada), Tawfik S. Radwan (Memorial University of Newfoundland, Canada) and M. A. Rahman (Memorial University of Newfoundland, Canada) 4639 V1-0085

# Wednesday Lunch

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## Session (Oral) WA1: Circuits and Applications

**Wednesday, May 5, 2004** **TIME: 13:00 – 15:20**

**CHAIR:** **Dr. D. Dodds, University of Saskatchewan** **Room: Ontario**

**1. Pixel Architectures for Digital X-Ray Mammography in Crystalline Silicon Technology**
Mohammad Hadi Izadi and Karim S. Karim (Simon Frase University, Canada) 6320 V3-1719

**2. Symbolically Defined Empirical Large-Signal Model for HBTs Compared to the Gummel-Poon Model**
Ammar Issaoun (École de Technologie Supérieure, Canada), A.B. Kouki (École de Technologie Supérieure, Canada) and F.M. Ghannouchi (École Polytechnique, Canada) 4203 V1-0031

**3. Reducing the Temperature Effect on a CMOS Transconductance and its Application in g-C Filters**
Yuelin Cui and R. Raut (Concordia University, Canada) 5446 V1-0389

**4. Single-Ended DSL Line Tester**
Bernado Celay and David Dodds (TRLabs/Univesity of Saskatchewan, Canada) 6869 V4-2155

**5. Custom Column Readout Circuitry to Extend the Dynamic Range of a Si:H Current Mediated Pixel Amplifiers for Large Area Diagnostic X-Ray Imaging Applications**
Tony Ottaviani and Karim S. Karim (Simon Fraser University, Canada) 6316 V3-1711

**6. Sources of Linearity Degradation in LINC Transmitters for Hybrid and Outphasing Combiners**
Ahmed Birafane (Ecole de Technologie Supérieure, Canada) and Ammar B. Kouki (Ecole de Technologie Supérieure, Canada) 5668 V1-0547

**7. A Multi Frequency Fresenel Lens using a Perforated Dielectric**
Irfan Kadri (Carleton University, Canada), Mike Britton (Ellistar Sensor Systems), Langis Roy (Carleton University, Canada) 5888 V2-0913

## Session (Oral) WA2: Communications & Networking

**Wednesday, May 5, 2004 TIME: 13:00 – 15:20**

**CHAIR: Dr. L. Zhao Room: Canadiana**

**1. Blind Decision Feedback Equalizer based on High Order MCMA**
Idir Chahed (Ecole de Technologie Supérieure, Canada), Jean Belzile (Ecole de Technologie Supérieure, Canada) and Ammar B. Kouki (Ecole de Technologie Supérieure,Canada) 6843 V4-2111

**2. A Postprocessor for an Interval-Based M-ary Detection System that Monitors Long-Duration Input**
Erin R. Budd (University of New Brunswick, Canada) and Maryhelen Stevenson (University of New Brunswick, Canada) 5936 V2-1025

**3. Characteristic function approach for higher order crossings with application for speed estimation**
Lian Zhao (Ryerson University, Canada) 7543 V4-2397

**4. Approximation of Phase and Envelope Distribution of Gaussian Random Amplitude-Modulated Signals** V3-1737
Stephen H. Sung (Calian Ltd., Canada) and Yifeng Zhou (Defence R&D Canada ) 6372

**5. Performance Analysis of Certain Scheduling Disciplines in Hardware**
Padmini Vellore (Memorial University of Newfoundland, Canada) and R. Venkatesan, (Memorial University of Newfoundland, Canada) 5813 V2-0715

**6. Packet Loss Probability for DiffServ over Heterogeneous MPLS Multicast Networks : A Simulation Study**
Abdullah AlWehaibi (Concordia University, Canada), Michel Kadoch (Ecole de technologie superieure, Canada) and Ahmed ElHakeem (Concordia University, Canada) 6909 V4-2209

**7. A New Method in Blind Estimation of Fast Time-Varying Channels Based on Subspace Method**
AmirReza Momen (Iran Telecommunication Research Center [TRC], Iran), Saeed Masajedian (Iran Telecommunication Research Center [ITRC], Iran), Yasin Miar (Iran Telecommunication Research Center [ITRC], Iran) and Jahangir Dadkhah Chime (Iran Telecommunication Research Center [ITRC], Iran) 6627 V4-1957

## Session (Oral) WA3: Robotics and Control

**Wednesday, May 5, 2004** **TIME: 13:00 – 15:20**

**CHAIR:** **Dr. A. Bot, GS Research and Consulting** **Room: Hennipen North**

**1. Robot Path Planning with Multiresolution Probabilistic Representations: A Comparative Study**
Martin Soucy (University of Ottawa, Canada) and Pierre Payeur (University of Ottawa, Canada) 5980 V2-1127

**2. Microscopic Dynamics of Cytobots**
Blake W. Podaima (TRLabs, Canada) and Thuraiappah Vaseeharan (TRLabs, Canada), Richard Gordon (TRLabs, Canada) 6137 V3-1527

**3. Advanced Robotics Mechatronics System: Emerging Technologies for Interplanetary Robotics**
George Bailak (MD Robotics Limited, Canada), Bruno Rubinger (MD Robotics Limited, Canada), Moksoon Jang (University of Toronto, Canada) and Francis Dawson (University of Toronto, Canada) 6716 V4-2025

**4. An Improvement of Self-localization for Omnidirectional Mobile Robots using a New Odometry Sensor and Omnidirectional Vision**
Hamid Reza Moballegh (University of Ottawa, Isfahan University of Technology, Canada), Peiman Amini and Yousof Pakzad (University of Ottawa, Isfahan University of Technology, Canada) 7011 V4-2337

**5. A New Efficient Control Algorithm Using Potential Field: Extension to Robot Path Tracking**
Gong Cheng (Dalhousie University, Canada), Jason Gu (Dalhousie University, Canada), Tao Bai (Dalhousie University, Canada) and Osama Majdalawieh (Dalhousie University, Canada) 6725 V4-2035

**6. Numerical Simulation of a Multipowered Onboard Drive Train**
Raphael Roy ( Université de Moncton, Canada) and Jamel Ghouili (Université de Moncton, Canada) 6801 V4-2069

**7. SDI-12 based Turbidity Measurement System with Field Calibration Capability**
Jose Pereira (ESTSetúbal), Octavian Postolache (Institute of Telecomunication - IST), Pedro Girão (Instituto de Telecomunicações) and Helena Ramos (Instituto de Telecomunicações) 6661 V4-1975

## Session (Oral) WA4: Control Systems II

**Wednesday, May 5, 2004 TIME: 13:00 – 15:20**

**CHAIR: G. Swick, Niagara College Room:Tuscarora**

**1. On the Debugging of a High Clutter Tracking System**
Zhen Ding (Raytheon Canada Ltd, Canada) 6833 V4-2103

**2. A Decision Support System for Oil Production Prediction**
Hanh H. Nguyen (University of Regina, Canada), Christine W. Chan (University of Regina, Canada) and Micheal Monea (Petroleum Technology Research Center, Canada) 6086 V3-1397

**3. Agent-based Resource Management for Smart Robotic Sensors**
Abderrahmane Assal (University of Ottawa, Canada) and Voicu Groza (University of Ottawa, Canada) 6931 V4-2239

**4. Genetic Algorithm for Dynamic Path Planning**
Ahmed Elshamli (University of Guelph, Canada), Hussein Abdullah (University of Guelph, Canada), Shawki Areibi (University of Guelph, Canada) 5797 V2-0677

**5. Tension Control Loop Using a Linear Actuator Based on the Energetic Macroscopic Representation**
Christian Thiffault (Université du Québec à Trois-Rivières, Canada), Pierre Sicard (Université du Québec à Trois-Rivières, Canada) and Alain Bouscayrol (Université des Sciences et Technologies de Lille, France) 6728 V4-2041

**6. A Requirements Interaction Detection Process Guide**
Mohamed Shehata (University of Calgary, Canada), Li Jiang (University of Calgary, Canada) and Armin Eberlein (American University of Sharjah, UAE) 6401 V3-1753

**7. A Web-Based 3D Virtual Robot Remote Control System**
Xiaoli Yang (Lakehead University, Canada), Dorina C. Petriu (Carleton University, V2-0955 Canada), Thom E. Whalen (CRC, Canada), Emil M. Petriu (University of Ottawa) 5898

## Session (Oral) WA5: Motor Drives

**Wednesday, May 5, 2004** **TIME: 13:00 – 15:20**

**CHAIR:** **Dr. R. Alden, McMaster University** **Room: Cree**

**1. Fuzzy-Logic-Based Controller For Synchronous Reluctance Motor**
Tawfik S. Radwan and Essam M. Rashad (Memorial University of Newfoundland, Canada), Mohammad Nasir Uddin (Lakehead University, Canada) and M. A. Rahman (Memroial University of Newfoundland, Canada) 6371 V3-1731

**2. A Comparison between Nonlinear Controllers for Induction Motors based on Different Reference Frames**
Azeddine Kaddouri (Université de Moncton, Canada), Jamel Ghouili (Université de Moncton, Canada) and Mohsen Ghribi (Université de Moncton, Canada) 6538 V4-1849

**3. Intelligent modeling and control of a pneumatic motor**
Rapelang Marumo (University of Sheffield, UK) and O. M. Tokhi (University of Sheffield, UK) 5996 V2-1163

**4. Adaptive Fuzzy Variable Structure Control of Induction Motors**
Mohammed S. Agamy (Queen's University, Canada), Hasan A. Yousef, (Alexandria University, Egypt) and Omar A. Sebakhy (Alexandria University, Egypt) 4676 V1-0089

**5. Real Time Flux and Torque Estimator for Induction Machines**
Moussa Zerbo (Université du Québec à Trois-Rivières, Canada), Abdellfattah Ba-Razzouk (Université du Québec à Trois-Rivières, Canada) and Pierre Sicard (Université du Québec à Trois-Rivières, Canada) 6872 V4-2159

**6. High Frequency Characterization of a Via Hole Discontinuity**
N. Hassaine (Harris Corporation, Canada), L. Villeneuve and F. Concilio (Harris Corporation, Canada) 5824 V2-0743

## Session (Oral) WA6: Agent-based Systems

**Wednesday, May 5, 2004** **TIME: 13:00 – 15:20**

**CHAIR:** **Dr. K. Plataniotis, University of Toronto** **Room: Haida**

**1. Design of a Multi-Agent System for Autonomous Database Administration**
Sunitha Ramanujam (University of Western Ontario, Canada) and Miriam A. M. Capretz (University of Western Ontario, Canada) 5997 V2-1167

**2. A Collective View and Methodologies for Software Agents' Interaction**
Behrouz Homayoun Far (University of Calgary, Canada) 6033 V3-1249

**3. An Agent-Based Shopping System**
Luigi Benedicenti (University of Regina), Xuguang Chen (University of Regina), Xiaoran Cao (University of Regina) and Raman Paranjape (University of Regina) 5805 V2-0703

**4. A Framework for Repurposing Multimedia Content**
Mohammod Shamim Hossain (University of Ottawa, Canada), Md. Abdur Rahman and Abdulmotaleb El-Saddik (University of Ottawa, Canada) 5904 V2-0971

**5. Towards a Multi-domain Semantic Web Application**
M. Anwar Hossain (University of Ottawa, Canada), Abdulmotaleb El-Saddik and Pierre Levy (University of Ottawa, Canada) 6024 V3-1237

**6. Extreme Programming in Global Software Development**
Yang Xiaohu (Zhejiang University, China), Xu Bin and He Zhijun, (Zhejiang University, China), Srinivasa R. Maddineni (SSGM/Securities Trading IT, USA) 6528 V4-1845

**7. Self-management model based on Multiagent and Worm Techniques**
Ya-Ping Zhang (Tianjin University, China), Jizhou Sun (IBM Lab Center, Tianjin University, China) and Jian Bo Ma (Tianjin University, China) 5491 V1-0397

## Session (Oral) WA7: Modeling and Simulation II

**Wednesday, May 5, 2004** **TIME: 13:00 – 15:20**

**CHAIR:** **Dr. M. Yagoub, University of Ottawa** **Room: Auditorium**

**1. An Adaptive Time Step Control Algorithm for Nonlinear Time Domain Envelope Transient**
Carlos E. Christoffersen (Lakehead University, Canada) and Jude Alexander (Lakehead University, Canada) 5876 V2-0883

**2. Configurable Coprocessing with an ARC-PCI Board**
William Bishop (University of Waterloo, Canada), David Grant (University of Waterloo, Canada) and Wayne Loucks (University of Waterloo, Canada) 5918 V2-0987

**3. A Temperature dependent Large-Signal Drain Current Neural Model for the Dual-Gate MESFET**
Mohammad Abdeen (University of Ottawa, Canada) and M. C. E. Yagoub (University of Ottawa, Canada) 6076 V3-1367

**4. A Physics-Based Analytical Model of a GaN/AlGaN HEMT Incorporating Spontaneous and Piezoelectric Polarization**
Jonathan C. Sippel (Rochester Institute of Technology, USA), Syed Islam (Rochester Institute of Technology, USA) and Sankha S. Mukherjee (Rochester Institute of Technology, USA) 6088 V3-1401

**5. Power MOSFET Macromodel Accounting for Saturation and Quasi Saturation Effect**
Wael El Manhawy (Mentor Graphics) and Wael Fikry (Mentor Graphics) 6527 V4-1839

**6. A Tool Converting Finite State Machine to VHDL**
Amr T. Abdel-Hamid (Concordia University, Canada), Mohamed Zaki (Concordia University, Canada) and Sofiene Tahar (Concordia University, Canada) 6582 V4-1907

**7. A CMOS Elliptic Low-Pass Switched Capacitor Ladder Filter for Video Communication Using Bilinear Implementation**
Mohammad Moghaddam Tabrizi (University of Tehran, Iran), Amir Amirabadi (University of Tehran, Iran), Mohammad Sharifkhani (University of Waterloo, Canada) and Omid Shoaei (University of Tehran, Canada) 6328 V3-1723

## Session (Oral) WA8: Wireless Networks and Applications

**Wednesday, May 5, 2004** **TIME: 13:00 – 15:20**

**CHAIR:** T.B.A. **Room: Chippawa**

**1. The Design of an Architecture for Software Agents on Mobile Platforms**
Koragod Saenchai (Khon Kaen University), Luigi Benedicenti (University of Regina, Canada) and Raman Paranjape (University of Regina, Canada) 6083 V3-1389

**2. Havana: A Mobile Agent Platform for Seamless Integration with the Existing Web Infrastructure**
Qusay H. Mahmoud (University of Guelph, Canada) and Leslie Yu (University of Guelph, Canada) 6035 V3-1257

**3. Modeling the Customer Behavior in the Mobile Payment on a non-Connected Vending Machine Platform**
Seyed Bahram Zahir Azami (Hivva Technologies, Canada), Nathalie Torabii (Hivva Technologies, Canada), Mohammad Tanabian (Hivva Technologies, Canada) 5852 V2-0815

**4. Reduced Size Cross-Coupled Resonator Bandpass Filters for Wireless Communication Systems**
F. Ghanem (INRS-EMT, Canada), T. A. Denidni (INRS-EMT, Canada), G. Y. Delisle (University of Ottawa) 6127 V3-1499

**5. TCP Performance Evaluation Over Wireless Networks**
Xiaojing He (Tianjin University, China), Linying Xu (Tianjin University, China), Manyun Liu (Tianjin University, China) and Lianfang Zhang (Tianjin University, China) 5914 V2-0983

**6. A Distributed -Agent Scheme in Mobile IP Networks**
Xuejun Sun (Tianjin University, China), Shengli Li (Tianjin University, China) Tao Liu (Tianjin University, China), Lianfang Zhang (Tianjin University, China) 5740 V2-0637

**7. Research on the SLA-based Service Management in Mobile Communication Network**
Song Mei (Beijing University of Posts and Telecommunications, China), Chang Qian (Beijing University of Posts and Telecommunications, China), Song Rongbing (Beijing University of Posts and Telecommunications, China) and Song Junde (Beijing University of Posts and Telecommunications, China) 5927 V2-1017

## Session (Oral) WA9: High Speed Circuits and Applications

**Wednesday, May 5, 2004** **TIME: 13:00 – 15:20**

**CHAIR:** **Dr. J. Deen, McMaster University** **Room: Oneida**

**1. A Low -Voltage Current Mode Instrumentation Amplifier Designed in a 0.18-micron CMOS Technology**
Evan L. Douglas (University of New Brunswick, Canada), Dennis F. Lovely (University of New Brunswick, Canada) and David M. Luke (University of New Brunswick, Canada) 6417 V3-1777

**2. A 12-bit, 50 MS/s SiGe BiCMOS Sample-and-Hold Residue Amplifier**
Siddharth Devarajan (Rensselaer Polytechnic Institute, USA), Ronald J. Gutmann and Kenneth Rose (Rensselaer Polytechnic Institute, USA) 6048 V3-1293

**3. New CML Latch Structure for High Speed Prescaler Design**
Muhammad Usama (Carleton University, Canada) and Tad Kwasniewski (Carleton University, Canada) 6592 V4-1915

**4. Generation of Analog and Digital Transfer Functions having a Monotonic Magnitude Response**
Venkatanarayana Ramachandran (Concordia University, Canada), C. S. Gargour (University of Quebec, Canada) and Ravi P. Ramachandran (Rowan University, USA) 5311 V1-0319

**5. Design of a High-Speed (255,239) RS Decoder using 0.18uM CMOS**
Anh Dinh and Daniel Teng (University of Saskatchewan, Canada) 6883 V4-2171

**6. Synchronous Sequential Circuits Design Using Evolutionary Algorithms**
Ahmed T. Soliman (Ain Shams University, Egypt) and Hazem M. Abbas (Mentor Graphics Egypt, Egypt) 6696 V4-2013

**7. A 10 b, 40 Msample/s, 25 mW Pipeline Analog to Digital Converter**
Amir Amirabadi (University of Tehran, Iran), Mohammad Moghaddam Tabrizi (University of Tehran, Iran), M. Sharifkhani (University of Waterloo, Canada) and Omid Shoaei (University of Tehran, Iran) 6670 V4-1989

## Session (Oral) WA10: Signal and Image Processing

**Wednesday, May 5, 2004 TIME: 13:00 – 15:20**

**CHAIR: R Blake, Niagara College Room: Hennipen South**

**1. Adaptive Image Restoration Using a Perception Based Error Measurement**
Stuart Perry (Canon Information Systems Research Australia, Australia), Pedram Varjavandi (Ryerson University, Canada) and Ling Guan (Ryerson University, Canada) 6163 V3-1585

**2. Re-positioning Effects on a Full Torso Imaging System for the Assessment of Scoliosis**
Peter O. Ajemba (University of Alberta, Canada), Nelson G. Durdle (University of Alberta, Canada), Doug L. Hill (Glenrose Rehabilitation Hospital, Canada) and V. J. Raso (Glenrose Rehabilitation Hospital, Canada) 6122 V3-1483

**3. Volumetric Display of Magnetic Resonance Images using Scopira and OpenGL**
Satish B. S. Pallapotu (University of Manitoba, Canada) and Nicolino J. Pizzi (Institute for Biodiagnostics, National Research Council, Canada) 6560 V4-1885

**4. An Effective Feature Extraction Algorithm for The Recognition of Facial Expressions**
Satoshi Nakamizo (Kogakuin University, Japan), Ken-ichi Haneda (Kogakuin University, Japan) and Osamu Nakamura (Kogakuin University, Japan) 5920 V2-0993

**5. Rate-Distortion Optimization of Spatial Filters for Motion -Compensated Video Coding**
Vincent Fong (Queen's University, Canada) and Wai-Yip Chan (Queen's University, Canada) 5892 V2-0931

**6. Tone Recognition of Thai Continuous Speech Using Fujisaki's Model**
Nutthee Ngarmchatetanarom and Ekkarit Maneenoi (Chulalongkorn University, Thailand), Widhyakorn Asdornwised and Somchai Jitapunkul (Chulalongkorn University, Thailand) 5089 V1-0149

**7. New Compactly Supported Scaling And Wavelet Functions Derived From Gegenbauer Polynomials**
Luciana R. Soares (Federal University of Pernambuco, Brazil), Helio M. Oliveira (Federal University of Pernambuco, Brazil) and Renato J. de Sobral Cintra (Federal University of Pernambuco, Brazil) 7026 V4-2347

## Session (Poster) WP1: Application I

**Wednesday, May 5, 2004 TIME: 13:30 – 14:30**

**CHAIR: Dr. K. Plataniotis Room: Oakes Foyer**
**Mr. P. Westlind**

**1. A Novel Reputation System Facilitating Cooperation in Pervasive Wireless Environment**
Huiping Sun (Beijing University of Posts and Telcommunications, China)
Junde Song (Beijing University of Posts and Telecommunications, China) 5897 V2-0951

**2. Pitch and MFCC Dependent GMM Models for Speaker Identification Systems**
Hassan Ezzaidi (Université du Québec à Chicoutimi, Canada) and Jean Rouat (Université de Sherbrooke, Canada) 4257 V1-0043

**3. Cramer-Rao Bound for Channel Estimation Errors in Space-time Coding and Modulation**
Guihua Kang (Zhejiang University, China), Zhaoyang Zhang(Zhejiang University, China), Peiliang Qiu(Zhejiang University, China) 6395 V3-1745

**4. Research on the Session Control Technologies in 3GPP UMTS Networks**
Zhou Wenan (Beijing University of Post and Telecom, Beijing, P.R. China), Wang Daoyi (CITIC communications project management Co Ltd.) and Song Junde (Beijing University of Post and Telecom, Beijing, P.R. China) 6687 V4-2005

**5. Supporting Traditional IP Applications in Active Networks** V1-0121
Zhigang Jin (Tianjin University, China), Yongmei Luo (Tianjin University, China), Yantai Shu (Tianjin University, China) and Zhifeng Fu (Tianjin University, China) 4989

**6. Collaborative Learning System based on Wireless Mobile equipments**
Zhaopeng Meng (Tianjin University, China), Jianjun Chu (Tianjin University, China) and Lianfang Zhang (Tianjin University, China) 5619 V1-0481

**7. Three Routes to Chaos in Power Systems**
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**8. Microprocessor-Based Phase Tracking System for Digital Power Metering**
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